# **APPENDICES**

APPENDIX A: ACRONYMS AND ABBREVIATIONS	99
APPENDIX B: GLOSSARY OF TERMS	103
APPENDIX C: MOU BETWEEN ADOT, FEDERAL HIGHWAY ADMINISTRATION, AZ, AND THE USDA FOREST SERVICE - SOUTHWEST REGION	
APPENDIX D: MOU BETWEEN ADOT, FEDERAL HIGHWAY ADMINISTRATION, AZ, AND THE BUREAU OF LAND MANAGEMENT, AZ	
APPENDIX E: OPERATING AGREEMENT BETWEEN BLM, ADOT AND FHWA	131
APPENDIX F: EASEMENT DEVELOPMENT	139
APPENDIX G: SECTION 106 PROCESS ON FOREST SERVICE LANDS	147
APPENDIX H: TYPICAL BLASTING PLAN CONTENT	153
APPENDIX I: COMPARISON OF PERMIT PROCESSES FOR MATERIAL SITES	155
APPENDIX J: SIGNING	159
APPENDIX K: PROJECT REFERENCE	169
APPENDIX L: NATIVE PLANT SALVAGE & REPLANTING EVALUATION GUIDELINES	171
APPENDIX M: REFERENCES	173
APPENDIX N: ADDITIONAL PHOTOS	177
APPENDIX O: ADDENDA	183

# **APPENDICES**

# APPENDIX A

## APPENDIX A: ACRONYMS AND ABBREVIATIONS

**AASHTO**—American Association of State Highway Transportation Officials

**ADEQ**—Arizona Department of Environmental Quality

**ADOT**—Arizona Department of Transportation

**AO**—Authorized Officer (BLM Field Manager or designatee)

**ARPA**—Archeological Resources Protection Act

**ARS**—Arizona Revised Statutes

AZPDES—Arizona Pollutant Discharge Elimination System

**BCT**—Breakaway Cable Terminal (guard rail).

**BE**—Biological Evaluation

**BLM**—Bureau of Land Management

**BMP**—Best Management Practice

**C&S**—ADOT Contracts and Specifications Section

CAA—Clean Air Act

**CE**—Categorical Exclusion (used by ADOT/ FHWA relating to environmental analysis)

**CEQ**—Council on Environmental Quality

**CFR**—Code of Federal Regulations

**CWA**—Clean Water Act

**CX**—Categorical Exclusion (used by BLM relating to environmental analysis)

**DCR**—Design Concept Review

**DOI**—Department of Interior

**DOT**—Department of Transportation

**EA**—Environmental Assessment

**ED**—Environmental Determination

**EEG**—ADOT Environmental and Enhancement Group

**EIS**—Environmental Impact Statement

# **GUIDELINES**

**EPG**—ADOT Environmental Planning Group

**ESA**—Endangered Species Act or Environmental Site Assessment

FHWA—Federal Highway Administration

FLPMA—Federal Land Policy and Management Act

FLT—Federal Land Transfer

FONSI—Finding of No Significant Impact

FUP—Free Use Permit

H(#)—Haul Road Number for material sites

**HAZMAT**—Hazardous Material

**HED**—Highway Easement Deed

ID Team—Inter-Disciplinary Team

**IRM**—Integrated Resource Management

ISA—Initial Site Assessment, Phase I parcel-specific assessment for HAZMAT

LMP—Land Management Plan

LOC—Letter of Consent

LRMP—BLM Land and Resource Management Plan

LUP-Land Use Plan

**MMA**—Minerals Management Act

**MOU**—Memorandum of Understanding

MS-Material Site

**MSEB**—ADOT Material Site Excavation Boundaries

MSGP—Multi-Sector General Permit

MSROW—Mineral Site Right-of-Way

**MUTCD**—Manual of Uniform Traffic Control Devices

**MVD**—Motor Vehicle Division

NAGPRA—Native American Graves Protection and Repatriation Act

**NBIS**—National Bridge Inspection Standards

**NEPA**—National Environmental Policy Act

NHPA—National Historic Preservation Act

NHS—National Highway System

**NOI**—Notice of Intent

**NOT**—Notice of Termination

NPDES—National Pollutant Discharge Elimination System

**OA**—Operating Agreement

**PA**—Project Assessment

PeCoS—Performance Control System

**PIP**—Project Implementation Process

**PISA**—Preliminary Initial Site Assessment (project overview for HAZMAT)

PM—ADOT Project Manager or ADOT Plat Map showing material site boundaries and haul road locations

**PR**—Project Reference

**PRWB**—Proposed Right-of-Way Boundaries

PS&E—Plans, Specifications and Estimate

**PS**—ADOT Pit Sketch (aerial photo showing location of material site and usually the haul road location)

**R/W**—Right-of-Way (ROW)

**ROD**—Record of Decision

**ROW**—Right-of-Way (R/W)

SHPO—State Historic Preservation Office

**STB**—State Transportation Board

**SWPPP**—Stormwater Pollution Prevention Plan

**T&E**—Threatened and Endangered

**TCE**—Temporary Construction Easement

Title 23 United States Code. Highways

# **GUIDELINES**

Title 30—Title 30 United States Code. Mineral Lands and Mining

Title 43—Title 43 United States Code, Public Lands: Interior

**TUP**—Temporary Use Permit

**USDAFS**—United States Department of Agriculture Forest Service

**VER**—Valid Existing Rights

# APPENDIX B: GLOSSARY OF TERMS

### Abandonment—

As defined by ADOT: To convey R/W to another governmental agency for continued use as a transportation facility.

As defined by FHWA: To relinquish public interest in existing R/W with no intent to reclaim or reuse for R/W purposes (an action which ADOT calls "vacate and extinguishment" for public lands or "vacate and extinguishment" for private lands).

As defined by BLM: Abandonment of the site by the authorized user without official notification. As defined by USFS: A change in Transportation Facility Jurisdiction to another governmental entity. Abandonment to a public authority would necessitate fulfillment of requirements set forth in the Letter of Consent.

Need ADOT comment/confirmation

**Access**—The right of a traveler (vehicle, bicycle, pedestrian, etc.) to ingress to and egress from a highway corridor.

**Access Control**—The process of regulating ingress to or egress from the highway (i.e., Interstate Standard for Access).

## Access Rights—

As defined by ADOT: The right of reasonable and adequate ingress and egress from a highway corridor to an adjoining property. This right is subordinate to public safety.

As defined by the Forest Service: A privilege or right of a person or entity to pass over or use another person's or entity's travel way. (36 CFR 212.1, FSM 5460.5-Rights of Way Acquisition, FSM 7700-Transportation System).

Need ADOT comment/confirmation

**Acquisition**—The process of taking possession of real property.

**Aggradation**—To fill and raise the level of the bed of a stream by deposition of sediment.

Appraisal—The act or process by which a qualified professional develops an opinion of value of a real property.

**Appropriation**—The act of acquiring Right-of-Way from BLM or USFS lands for federal-aid transportation purposes. *Need ADOT comment/confirmation* 

**As-Builts**—The final set of ADOT construction plans generated upon completion of a project showing improvements as ultimately constructed.

**Aspect**—A position facing a particular direction; exposure.

**Backslope**—A cut slope (contrast to Foreslope).

**Best Management Practice (BMP)**—Any program, technology, process, siting criteria, operating method, measure or device that prevents, controls, removes or reduces pollution.

**Bid Documents**—Construction plans and specifications issued to contractors for the purpose of bidding.

**Bifurcated Highway**—A design in which the two directions of vehicular travel are split so that each roadway can follow an independent path.

Borrow Site—A source of rock or soil material for use in construction.

**Bridge**—A structure, including support, erected over a depression or an obstruction and having a passageway for carrying traffic or other moving loads. A bridge has an opening measured along the center of the roadway of more than 25 feet between undercopings of abutments or springlines of arches, or extreme ends of openings for multiple boxes; it may also include multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening.

**Clear Zone**—The total roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles (also known as the Recovery Area). This area may consist of a shoulder, a recoverable slope (generally 4H:1H or flatter) and/or a clear run-out area. The desired width is dependent upon the traffic volumes and speeds and on the roadside geometry (2002 ASHTO Roadside Design Guide).

**Colluvial**—Soils that have been eroded and transported from their origin. A colluvial slope contains a mixture of soil and rock and may exhibit more stability than a soil slope.

**Competent Rock**—Unbroken rock that is native and is an undisturbed rock-mass condition with typically moderately closely spaced to widely spaced fractures which, because of its physical and geological characteristics, is capable of sustaining openings without any structural support except pillars and walls, left during mining. *Need ADOT comment/confirmation* 

**Complex Slope Ratio**—An engineered slope constructed of variable or multiple slope ratios (in contrast to a uniform slope ratio). Depending on soil type and design, slopes of this nature may be less prone to erosion.

**Contractor Use Area**—Staging area where contractor may store material and/or equipment. Contractor Use Areas are typically included in the contract documents so that they may be included in the environmental review process during design. These areas may or may not require reclamation (typically to include re-grading and seeding) at the conclusion of the project.

**Controlled Access Highway**—A highway, street or roadway to or from which owners or occupants of abutting lands and other persons have no legal right of access except at such points and in a manner determined by the public authority that has jurisdiction over the highway, street or roadway.

**Controlled Blasting**—The controlled use of explosives and blasting accessories in carefully spaced and aligned drill holes, using different explosives and delays to produce specific, free surfaces or shear planes in the rock. Controlled blasting may result in visible drill hole scars, which require scaling to remove.

**Construction Plans**—Set of design plans and details intended for construction that form a part of the Bid Documents.

Conventional Highway—All highways and streets that are not freeways.

**Cushion Blasting**—A controlled blasting technique where drill holes are widely spaced, producing a finish rock face with a rougher finish than typically achieved with presplit blasting techniques.

**Cut Slope**—A slope that is excavated (contrast with Fill Slope).

**Decking Area**—A temporary log storage and staging area during tree clearing.

**Decommission**—Demolition, dismantling, removal, obliteration and/or disposal of a deteriorated or otherwise unneeded asset or component, including necessary cleanup work. Decommissioning includes applying various treatments, which may include one or more of the following:

Reestablishing former drainage patterns, stabilizing slopes, and restoring vegetation;

- Blocking the entrance to a road; installing water bars;
- Removing culverts, reestablishing drainage-ways, removing unstable fills, pulling back road shoulders, and scattering slash on the roadbed.
- Completely eliminating the roadbed by restoring natural contours and slopes.

**Development Plan**—Site management plan for material and waste sites.

**Disposal**—The conveyance of the State's interest in real property determined to be in excess of State transportation needs.

**Driver Expectancy Elements**—The recurring elements along a roadway corridor (such as design speed, horizontal and vertical curves, clear zone width, shoulder and lane width, etc.) that might surprise a driver if a sudden exception occurred.

### Easement—

As defined by ADOT: An interest in real property that conveys specific use, but not ownership rights, in another's property. Easements can be permanent or temporary and utilized for such purposes as access, drainage, ponding or slope construction or for the highway corridor itself. A special-use authorization for a R/W that conveys a conditioned interest (stipulation) in National Forest System land.

As defined by FS: An interest in land owned by another party that entitles the holder to a specific limited use or enjoyment. (FSM 5460.5).

Need ADOT comment/confirmation

## Easement Deed— See HIGHWAY EASEMENT DEED

Embankment—Fill slope or elevated area created with fill or borrow material.

**Encroachment**—An authorized or unauthorized physical feature that extends into the Right-of-Way and may connect with the roadway.

**Environmental Analysis**—An assessment of potential impacts resulting from all highway-related activities and including such considerations as existing land use, hazardous materials, air quality, noise abatement, sensitive or endangered species, historic sites, cultural resources and socio-economic issues.

**Ephemeral Stream**—A drainage that actively flows only in response to specific storms (contrast to perennial stream).

### Extinguishment—

As defined by ADOT: The vacating of a transportation facility and dissolution of State interests in existing R/W that is held via easement on private property.

As defined by USFS: Depending on the situation, see either Road Decommissioning or Easement. Need ADOT comment/confirmation

**Federal Land Transfer**—FHWA appropriation of lands from another federal agency (such as BLM or USFS).

**Federal-Aid Highway**—Highway corridors that are eligible for federal-aid funding such as interstates, primary, secondary and urban roads and off-system bridges.

Fines—Inorganic solid particles having a grain diameter smaller than 1/16".

**Fly Rock**—Rock that is launched into the air by a blast. Elimination of fly rock is a goal of controlled blasting.

Form—The contour and structure of a visual element.

Foreslope—A fill slope (contrast to Backslope).

**Freeway**—A divided arterial highway on the interstate or primary system with full control of access and with grade separated intersections.

Gabion—A wire basket usually filled with stone that is used for erosion control and/or slope protection.

**Game Reflectors**—Reflectors placed along a roadway at known wildlife movement areas to warn motorists.

**Geotechnical Investigation**—Investigation of soil and rock qualities to determine parameters for design of earth slopes, structural foundations and/or embankments

**Hardscape**—All structural elements that are not a part of the natural terrain such as, paving, sidewalks, quard rail, walls, drainage culverts, etc.

Haul Road—Access road leading to an ADOT material site (not open to the public).

## **Highway Corridor—**

A general location usually up to two miles in width, in which a roadway could potentially be planned or constructed.

An existing public roadway and associated easement.

Need ADOT comment/confirmation

### Highway Easement Deed—

The document issued by FHWA to ADOT for official conveyance of permanent Right-of-Way. *OR* 

Land set aside for construction, operation and maintenance (including future minor improvements) of a highway described by sidelines of variable width that are generally parallel to the road centerline and include construction limits as well as undisturbed land. Except for unusual circumstances, the sidelines of a variable width right-of-way should parallel the centerline and extend a minimum of 250 feet before changing width from centerline (*from R3 Easement Policy Summary for Public Roads*, 01/23/1997). OR

The document executed by FHWA to ADOT for official conveyance of permanent Right of Way Easement (subject to a reversionary clause) for a transportation facility (both linier rights of way and material sites/haul roads exclusively utilized for a Federal-Aid Project (from Layne).

Need ADOT comment/confirmation

Hinge Point—The point at which the roadway grade meets the slope grade.

**Interdisciplinary**—A group of people from various professions including: engineering, biology, hydrology, landscape architecture, etc. An interdisciplinary approach to project design is used to define resource relationships and integrate procedural requirements.

Intermittent Stream—A natural drainage that flows sporadically throughout year.

Intermodal—Interaction or connection between or among more than one mode (of transportation).

**Integrated Resource Management**—A land management philosophy that recognizes that all natural resources are connected through an intricate series of interrelationships.

**Laid Back Slope**—A California slope. Also, a cut slope made flatter (less steep). Slopes may be laid back to generate additional embankment material, to improve aesthetics and/or to decrease erosion.

**Letter of Consent**—The document issued by BLM or USFS authorizing FHWA to appropriate public land for transfer to ADOT for construction of a highway corridor. The LOC grants ADOT immediate right of entry to commence construction activities in advance of actual HED conveyance.

**Lifters**—Horizontal holes drilled into rock for placement of explosives that "lift" the excavated material upon detonation.

**Line**—A visually continuous contour or edge of a form. A straight line usually has an unnatural appearance in the landscape.

**Local Access Road**—A highway or street, including National Forest roads, that serves primarily to provide access to adjacent land.

### Maintenance—

As defined by ADOT: Includes but is not limited to grading, resurfacing, cleaning culverts, clearing roadside vegetation, bridge maintenance, surveying, striping, etc. Does not require a permit from the USFS if performed within the R/W.

As defined by USFS: The preservation of the entire highway, including surface, shoulders, roadsides, structures and such traffic-control devices as are necessary for its safe and efficient utilization. (USC: Title 23, Section 101(a)).

**Materials**—For purposes of this text, material includes borrow, sub-base and base materials and mineral aggregates used for concrete structures and for surfacing materials. If derived from on-site sources, materials are described in project documents.

**Material Sources or Sites**—Sites approved for excavation and removal of material to be used in the construction, maintenance and/or operation of an ADOT project.

**Minor Drainage Structures (Minor Miscellaneous Structures)**—All highway structures not defined as a "bridge" are considered minor drainage structures or minor miscellaneous structures, retaining walls, etc. Reference is also made to the USFS Handbook, FSH7709.56b-Drainage Structures Handbook, where culverts are divided between major culverts and minor culverts.

Mitigate (Mitigation)—To make milder, less severe.

**National Environmental Policy Act**—Provides for study and public review of environmental impacts caused by planned activities (such as highway corridor construction).

**Non-Federal-Aid Highway**—State roads that are the sole responsibility of the state and are not eligible for federal-aid funding.

**Notice of Intent (NOI)**—An application to notify the permitting authority (typically EPA or ADEQ) of a facility's intention to be covered under a general permit allowing the discharge of stormwater runoff from a highway construction site.

**Notice of Termination (NOT)**—An application to notify the permitting authority of a facility's intent to terminate the NOI.

**Operating Agreement**—A documented agreement between BLM or USFS, FHWA and ADOT establishing procedures and supplementing the Memorandum of Understanding.

**Oversight Agreement**—An agreement between ADOT and FHWA regarding project Administrative Procedures for Federal Projects.

**Ownership Record Sheet**—A component of Right-of-Way plans; includes parcel-specific information (parcel number, owner name, legal description, total parcel size, existing Right-of-Way, new fee and easement Right-of-Way requirements).

**Overburden**— Soil or mixed soil and rock that overlies a proposed rock material source. The volume of overburden will affect the strength of a blast required to break up a given rock outcropping.

**Parcel**—A piece of land in one ownership entity. ADOT assigns a Right-of-Way Parcel Number to each parcel to be acquired that is used throughout the acquisition process and also becomes a historical reference number.

PeCos System—Maintenance planning and accounting system utilized by ADOT.

Perennial stream—A natural drainage that carries live water throughout the year.

### Permit—

As defined by ADOT: A written approval granted by the Department for construction of a fixed or temporary improvement within a state highway right-of-way, or an activity requiring the temporary use of or intrusion upon a state highway.

As defined by USFS: A written license or warrant used by one party to a second party granting the second party permission to do some act that is not forbidden by law without such license or warrant. A permit gives permission but does not vest a right. In some states a permit may become non-revocable after a statutory period of time.

**Personal Property**—Property that is not permanently attached to or part of the real property; property that can be moved.

Pit—See Material source

Plan of Operations—Short-term, individual project plan for the entry, removal or disposal of rock material.

**Plating**—Soil placed in designated areas for revegetation. May be composed of native or imported soil; may or may not meet topsoil specifications.

**Presplitting**—A method of blasting wherein drill holes are closely spaced, resulting in a desired final cut face. Drill hole scars typically remain visible in the rock face, creating an unnatural appearance. However, presplitting also typically produces safe rock cut slopes with minimal rockfall. Presplitting is recommended for slopes where the remaining drill scars are not visible from the road or other nearby viewpoints.

**Prior Rights**—The identification of utilities (public and private) that were in place prior to establishment of highway corridor. Utilities with no prior rights are present within the Right-of-Way by permit and must relocate at their own expense when necessary. ADOT is responsible for utility relocations when that utility has prior rights.

**Production Blasting**—Blasting typically used to break up large quantities of rock for excavation. Drill holes are widely spaced throughout the excavation area.

**Project Contract Documents**-- Construction drawings (plans), an invitation to bid, instructions to bidders, specifications and addenda issued to contractors for the purposes of preparing competitive or negotiated bids.

Project Implementation Process—An interdisciplinary approach to project design used by the Forest

Service to adequately identify resource interrelationships, predict the effects of projects, and assure that planned projects are consistent with Forest Plans and other appropriate laws and regulations. An interdisciplinary approach identifies the resources involved, defines the resource interrelationships, and predicts the effects or impacts of the project.

**Project Reference**—An electronic, online document availability system covering documents throughout the life cycle (planning through maintenence) of an ADOT highway construction project. The BLM and USFS have access to all Project References for ADOT projects on the land they manage.

**Public Authority**—A Federal, State, County, Town or township, Indian tribe, municipal or other local government or instrumentality thereof, with authority to finance, build, operate or maintain toll or toll-free highway facilities.

**Pullout**—An additional lane or area designated for slow vehicles to temporarily pull over allowing faster traffic to pass.

**Quarry**—A source for rock material, typically requiring blasting and manufacturing (crushing, screening, blending, etc.) prior to utilization.

Ravel— Erosion due to stormwater runoff across the face of a cut slope.

**Real Property**—Land and any improvements affixed thereto, including (but not limited to) fee interests, easements, air or access rights and the rights to control use, leasehold and leased fee interests.

**Realty Permits**—A generic term used to refer collectively to the various types of land use authorizations (such as temporary use permits, Rights-of-Way, 2920 permits, etc.) issued by BLM allowing use of BLM-managed surface estate.

**Reclamation**—Those actions performed during or after soil disturbing activities to shape, stabilize, revegetate, or otherwise treat the affected lands in order to achieve a safe and ecologically stable condition.

**Recovery Area**—The roadside border area starting at the edge of the travelway, which is available for corrective action by errant vehicles (also known as the Clear Zone).

**Rehabilitation**—The restoration of a disturbed area to a condition similar to its original condition (also see Reclamation).

### Relinquishment—

As defined by ADOT: The vacating of a transportation facility and return of acquired property to state or federal agencies.

As defined by FHWA: The conveyance of Right-of-Way to another public agency for continued use as a transportation facility (ADOT defines this action as "abandonment").

As defined by BLM: The voluntary discontinuation of an authorized use.

As defined by USFS: The fulfillment of requirements set forth in the Letter of Consent and/or road decommissioning.

**Resource Protection Need**—A requirement that addresses a threat or risk of damage, obstruction, or negative impact to a natural resource.

# Right-of-Way-

As defined by ADOT: Right-of-Way consists of real property and rights therein used for the construction, operation or maintenance of a transportation or related facility.

# **GUIDELINES**

As defined by USFS: Land to be used or occupied for the construction, operation, maintenance and termination of a project or facility passing over, upon, under or through such land (36 CFR 251.51). Need ADOT comment/confirmation

**Right-of-Way Plans**—Engineer drawings that delineate the Right-of-Way requirements (both existing and proposed) for a highway corridor project. Right-of-Way plans differ from construction plans in that they are primarily concerned with Right-of-Way issues and show such features as parcel ownership limits and existing improvements. Right-of-Way plans are typically developed concurrently with the construction/design plans.

Riparian—Pertaining to an area influenced by a natural course of water.

**Riparian Area**—The vegetation and habitat associated with natural drainages. Especially in arid environments, riparian areas typically contain higher diversities of both flora and fauna and therefore, are of high natural resource value. Riparian areas may or may not contain perennial streams; in other words, natural drainages associated with ephemeral streams may be described as riparian areas.

Ripping—Roughening of a soil slope with equipment to a depth specified.

**Riprap**—Sized rock specified by class (representing a range of sizes by volume and weight) used to control erosion.

**Roadside Barrier**—A protective device intended to reduce the severity of highway accidents by preventing errant vehicles from entering hazardous areas and by redirecting an errant vehicle parallel to the direction of travel while holding the deceleration rate to a tolerable level.

Rockfall—Loosening and fall of rock from cut slopes onto roadway area.

**Rounded Slope**—A cut slope the top of which is rounded over to blend more naturally with the existing undisturbed grade.

Route Continuity—See Driver Expectancy Elements.

**Scale**—A progressive classification of size.

**Scaling**—The removal of hazard rocks on roadway cut slopes; can be done with sprayed water, mechanically or manually.

Shy Distance—The distance from a perceived obstacle at which a driver will take evasive action.

**State Highway**—State highways consist of the parts of the state routes designated and accepted as state highways by the State Transportation Board.

Site—A location that is reserved for a specific use (such as, stockpile site, hot plant site).

Slash—Debris left from a timber harvest composed of branches, twigs and needles/leaves.

**Sliver Cuts**—Typically undesirable cuts of minimal depth that closely parallel the slope ratio of the existing slope from which it is excavated. Such slopes are typically allowed to remain as is in order to minimize disturbance.

**Slope Ratio**— Run:Rise (hortizontal:vertical) ratio. For example, a 3:1 slope will rise one (1) foot for every three (3) feet of run.

**Soffit Fill**—A temporary fill constructed to serve as a form for structural concrete.

**State Highway**—State highways consist of the parts of the estate routes designated and accepted as state highways by the State Transportation Board.

**State Route**—State routes consist of corridor locations that have been designated by the State Transportation Board as a location for the construction of a state highway.

**Stormwater Pollution Prevention Plan (SWPPP)**—Dynamic document beginning with an NOI and including all activities and BMP's through completion of construction to final stabilization and NOT.

**Structure Identification—**Procedures are established by the National Bridge Inspection Standards and refer to the Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges prepared by the FHWA.

**Surcharge—**The additional loading of soil above natural ground level.

**Temporary Construction Easement (TCE)**— Easements that terminate upon completion of construction. TCE's fall into two general categories: Those that involve construction that benefit the property owner, such as improved access, utility reconnection or fence relocation; and those that are required by ADOT for the construction of a project.

**Temporary Road**—A road authorized by contract, permit, lease, other written authorization, or emergency operation not intended to be a part of the forest transportation system and not necessary for long-term resource management.

Test Pit—An excavation from which material is obtained for geotechnical test purposes.

**Texture**—The grain or surface quality of a visual element.

**Topsoil**—Specified productive A-horizon soil for use in restoration projects; the upper layer of overburden; the nutritive soil layer.

**Transportation Facility Jurisdiction**—The legal right to control or regulate use of a transportation facility derived from fee title, an easement, an agreement, or other similar method. While jurisdiction requires authority, it does not necessarily reflect ownership.

**Trimline**—The desired final limit of disturbance of a new cut slope.

Turnout—An intersecting roadway.

**Type 1 Roads**—Conventional State highways.

**Type 2 Roads**—All highways, streets and roads, including national forest roads, that access conventional State highways; local access roads.

Unsuitable or Unusable Material—Soil or rock material which is not appropriate or needed for contract.

**Utility Facility**—Electric, water, gas, steam power or materials transmission or distribution system. Any communications system (including cable television). Any fixtures, equipment, transportation system or other property associated with the operation, maintenance or repair of any such system. May be publicly, privately or cooperatively owned.

# **GUIDELINES**

**Utility Relocation**—The adjustment of a utility facility required by a highway improvement project, which may include the acquisition of additional Right-of-Way in order to remove and reinstall the displaced facility.

**Vacate**—The termination of ADOT's easement interest for an existing Right-of-Way. This action typically accompanies a relinquishment or extinguishment action. Vacation of a R/W back to the Forest Service necessitates fulfillment of requirements set forth in the Letter of Consent and road decommissioning.

**Valid Existing Rights**—The rights for use of BLM-managed lands, regardless of lack of written documentation for such rights. May be granted by Congress, Executive or Presidential proclamation, BLM, a previous land owner, another federal agency when the land was under their jurisdiction, mining claims properly filed under the General Mining Laws, etc. *Need ADOT comment/confirmation* 

**Value Analysis**—An independent review of a proposed design to determine if that design is meeting the project needs as economically as possible; required for all federal-aid projects estimated to cost more than \$20 million.

**Value Engineering**—A proposal submitted by the project contactor to the Engineer for modifying the plans, specifications, or other requirements of the contract for the sole purpose of reducing the total costs of construction without impairing in any manner the essential function or characteristics of the project.

**Warping**—<u>Cut slope warping</u> refers to a non-parallel cut slope. <u>Major warping</u> is achieved by excavating 20 to 40 feet back from the typical projected top/toe of slope to create variety in land form along a corridor. <u>Minor warping</u> is achieved by creating an irregular, jagged cut face, for added texture and shading. <u>Fill slope warping</u> refers to site specific steepening or flattening of fill slopes to create undulations, or to avoid significant resources near the toe of the fill.

Waste—Excess earth and/or rock

APPENDIX C: MOU BETWEEN ADOT, FHWA AZ, AND THE USDA FOREST SERVICE, SOUTHWESTERN REGION

# MOU No.

# MEMORANDUM OF UNDERSTANDING BETWEEN

THE ARIZONA DEPARTMENT OF TRANSPORTATION,
THE FEDERAL HIGHWAY ADMINISTRATION, ARIZONA,
AND

THE USDA, FOREST SERVICE, SOUTHWESTERN REGION

# Outline

I.	PURPOSE	. 3
II.	AUTHORITY	. 4
III.	ORGANIZATION AND WORK FLOW	. 4
IV.	AGENCY RESPONSIBILITIES	. 4
V.	OBJECTIVES	. 5
VI.	AREAS OF COOPERATION	6
VII.	COORDINATION MEETINGS	. 7
VII	. CONFLICT RESOLUTION	. 8
IX.	ADMINISTRATION	. 9

# MEMORANDUM OF UNDERSTANDING BETWEEN

# THE ARIZONA DEPARTMENT OF TRANSPORTATION, THE FEDERAL HIGHWAY ADMINISTRATION, ARIZONA, AND THE USDA, FOREST SERVICE, SOUTHWESTERN REGION

### **BACKGROUND**

# I. PURPOSE

This Memorandum of Understanding (MOU) outlines policies and procedures for the Arizona Department of Transportation (ADOT), Arizona Division of Federal Highway Administration (FHWA), and the USDA, Forest Service, Southwestern Region, (Forest Service), to establish and improve cooperative working relationships specifically by:

- A. Developing a mutual understanding of the missions, goals, constraints and responsibilities of the Forest Service, ADOT and FHWA as they relate to National Forest System Land and Resource Management Planning on public lands under or contiguous to ADOT highways; ADOT development and operation practices on highways located on public lands; and public lands needed for transportation purposes;
- B. Defining Forest Service, ADOT and FHWA organizational structures and identifying areas of cooperation to facilitate coordinated work efforts;
- C. Developing procedures and standardized methods for communication and coordination; and
- D. Minimizing duplication of work and streamlining work processes.

This MOU provides for a coordinated approach to accomplish National Forest System Land and Resource Management and transportation development and operation management in completing Forest Service, ADOT and FHWA goals and objectives. Such coordination is subject to the respective authorities of each agency, and is designed to reduce and, if possible, eliminate duplication of work; to establish procedures for streamlining work processes; to ensure each agency is provided sufficient lead time for proper sequential function; to make more efficient use of and share available resources; and to develop and execute action programs which maximize responsiveness to public needs and concerns.

# II. AUTHORITY

The general authorities for this MOU include, but are not limited to, the following:

- A. Forest and Rangeland Renewable Resources Planning Act of 1974, as amended Secs. 6 and 15, 90 Stat. 2949, 2952, 2958 (16 U.S.C. 1604, 1613); and 5 U.S.C. 301., as amended.
- B. 36 CFR Part 219 National Forest System Land Management Planning
- C. Various Federal Aid Highway Acts codified in 23 U.S.C.
- D. National Environmental Policy Act of 1969 (Pub.L. 91-190, 83 Stat. 852), as amended (42 U.S.C. 4321 et seq.).
- E. Title IV of the Intergovernmental Cooperation Act of 1968 (Pub. L. 90-577; 82 Stat. 1098), as amended (31 U.S.C. 6501 et seq.).
- F. Federal Grants and Cooperative Agreement Act of 1977 (Pub.L. 95-224; 92 Stat. 3), as amended (31 U.S.C. 6301 et seq.).
- G. Arizona Revised Statutes Sections 28-332 and 28-334.

Other authorities, and regulations for administering such authorities, if applicable, will be cited within the Guidelines for Highway Construction on Federal Lands attached and incorporated into the agreement as an Appendix to this MOU. This MOU incorporates and attaches a Guidelines for Highway Construction on Federal Lands in Arizona. This MOU supercedes former MOU No. "16-R3-92-0025", dated April 14, 1992.

# III. ORGANIZATION AND WORK FLOW

Refer to Guidelines for Highway Construction on Federal Lands in **Appendix XXX** for description of each agency's organizational structure and a map depicting the geographic boundaries of each agency's organization.

# IV. AGENCY RESPONSIBILITIES

- A. FHWA is responsible for administration and management of the Federal-aid highway program and application for right-of-way appropriation consistent with 23 C.F.R. 710.601 Subpart F.
- B. ADOT is responsible for the design, construction and management of the highway system within Arizona for which it has responsibility.
- C. The Forest Service is responsible for the protection and multiple-use management of Forest Service lands and resources for the use and benefit of the public, and for

integration of the development of State highway systems with Forest transportation systems needed to accomplish this purpose.

# V. OBJECTIVES

It is the objective of each party to cooperatively design and implement projects that promote transportation efficiency and safety, minimize impacts to the environment and are integrated to Forest Service land management plans.

- A. It is the objective of Forest Service, in collaboration with other Federal agencies, State Agencies, tribal governments and the public, to provide for the protection and multiple-use management of Forest Service lands and resources for the use and benefit of the public without sacrificing natural, cultural, and historical values.
- B. It is the objective of ADOT to provide a safe and efficient transportation system, together with the means of revenue collection, licensing and safety programs, which meets the needs of the citizens of Arizona.
- C. It is the objective of the FHWA to provide leadership, expertise, resources, and information to improve the quality and safety of Arizona's highway system and intermodal connectors in cooperation with their partners without sacrificing natural and cultural values.

### **AGREEMENT**

# VI. AREAS OF COOPERATION

The Forest Service, ADOT and FHWA recognize the need to work together to develop coordinated action plans; to establish procedures for timely disposition of issues or problems connected with the planning, scoping, environmental studies, design, construction and maintenance of public road systems on Forest Service managed public lands in the State of Arizona; and to achieve maximum efficiency from their respective agency funds and personnel. Therefore the parties hereto agree to:

- A. Develop a mutual understanding of each other's missions, goals and objectives.
- B. Develop effective communication by: 1) taking advantage of existing and new forums for issue identification; 2) defining and eliminating communication barriers; and 3) sharing information using appropriate communication vehicles, such as E-mail, video conferencing, etc.
- C. Achieve effective conflict resolution by: 1) developing and implementing a process for resolving conflicts (see Section VIII of this MOU); 2) maintaining a commitment to use the process developed; 3) honoring past commitments; 4) maintaining a solutions-oriented approach; and 5) recognizing the need for flexibility, especially to meet the public safety needs.
- D. Streamline and improve timeliness of review processes by: 1) early involvement of all relevant parties through proactive participation; 2) pooling and sharing of expertise and resources; 3) striving for a single point of contact; 4) eliminating unnecessary paperwork and processing steps; and 5) removing, where feasible and appropriate, FHWA from routine right-of-way transactions.
- E. Coordinate planning processes by: 1) holding, at a minimum, yearly coordination meetings; 2) integrating transportation needs with Forest Service Forest Plans; 3) using an interdisciplinary approach throughout all processes; and 4) developing consensus on the environmental review process.
- F. Develop and maintain effective teamwork by: 1) undertaking additional training in team building and partnering; 2) striving for mutual respect; and 3) evaluating the resulting partnership on an annual basis.
- G. Follow the established roles, responsibilities and operating procedures as outlined in the Guidelines for Highway Construction on Federal Lands attached hereto as Appendix **XXX**.

In addition, the Forest Service, ADOT and FHWA agree to develop a programmatic approach to streamline interagency coordination of the NEPA process and reduce repetitive documentation for low impact projects.

# VII. COORDINATION MEETINGS

The Forest Service, ADOT and FHWA agree to hold coordination meetings as follows:

- A. Local coordination meetings or contacts between each Forest Service Forest Supervisor's Office and corresponding ADOT Districts will be held as often as needed, but not less frequently than annually. Attending these meetings will be the Forest Engineer, FHWA and ADOT District Engineers, and appropriate staffs. The meetings will be scheduled by joint action of the Forest Engineer and ADOT District Engineers. Other groups, agencies and individuals, as deemed necessary or beneficial to the intent of the meeting, may be invited to attend. The purpose of these local meetings is to:
  - Share information and keep each other informed of progress on ongoing projects and the partnering effort, including developing action items.
  - 2. Review agency responsibilities, programs and priorities, including preliminary plans which may develop into future cooperative efforts.
  - 3. Identify additional opportunities for improvement that may require the attention and/or support of the next level of management and/or should be included on the agenda for the State meeting.
  - 4. Work out exchanges of materials, workers or equipment on a temporary basis and on specific case related work areas where such an arrangement would be to the mutual benefit of the Forest Service, ADOT and FHWA.
  - 5. ADOT shall coordinate highway maintenance activities with the local Forest Service District Ranger. A written annual maintenance plan shall be prepared by ADOT and submitted to the Forest Service to address items requiring Forest Service coordination and assistance such as additional clearing outside the original clearing limits, disposal of slough material, changes in road drainage patterns, material sources and storage, rock scaling and similar actions. The Forest Service shall review and comment on the plan within three (3) weeks of receipt from ADOT. Areas of concern should be jointly reviewed.
  - 6. The Forest Service, ADOT and FHWA appreciate the importance of cooperation and the timely resolution of issues and jointly agree to participate in "partnering". Partnering is a process for improving communications, encouraging cooperation, assisting decision making and developing and sustaining a level of trust among the partners.

It is also agreed that Forest Service representatives shall attend ADOT sponsored partnering meetings for highway design and construction projects on National Forest Land.

B. Statewide meetings as necessary, but not less frequently than annually, and preferably after concluding all the local meetings, will be scheduled by joint action of

the Forest Service Regional Engineer, ADOT State Engineer, and FHWA Division Administrator or their respective designees. Agenda items and participants will be discussed as needed before the meeting. Three meetings shall be held among ADOT, FHWA and Forest Service each year. These are the Forest Highways Meeting to discuss the Public Lands Highway (PLH) Program, and the State Five-Year Highway Construction Program, the Annual Coordination Meeting for among ADOT, FHWA and Forest Service, and the Invasive Species / Herbicide Group. The purposes of the State meetings are to:

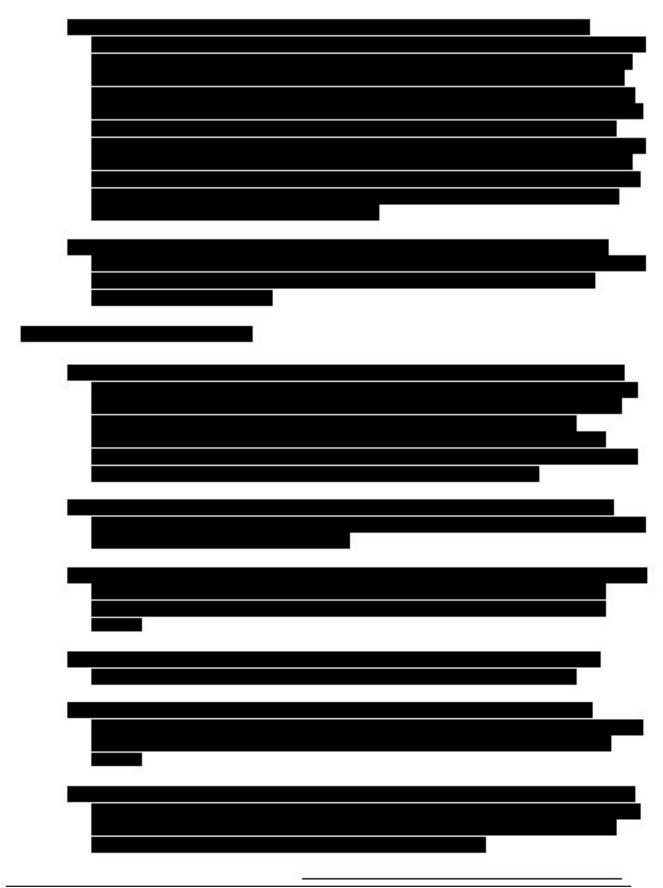
- Discuss each agency's short and long range plans, annual work plans, and programming processes to provide adequate time for submission of budget requests to ensure simultaneous scheduling of programs and completion of scheduled work.
- 2. Develop and maintain procedures designed to coordinate Forest Service, ADOT and FHWA work on a statewide basis.
- 3. Review priorities and designate critical functional and/or geographical areas.
- 4. Conduct joint evaluations of the coordination efforts and review of plans and/or completed work.

# VIII. CONFLICT RESOLUTION

All parties hereto agree to work cooperatively to minimize conflicts in implementation of this MOU. Where an impasse has been reached, each party agrees to involve relevant agency management as necessary to resolve the conflict as quickly as possible. Final resolution of any continuing impasse will be a matter for determination by the State Director, Forest Service, Arizona State Office; Director, ADOT; and Division Administrator, FHWA, or their respective designees.

A. If an impasse remains, it shall be escalated as follows:

FOREST SERVICE	ADOT PROGRAM DEVELOPMENT	ADOT CONSTRUCTION	<u>FHWA</u>
Project Engineer	Project Manager	Resident Engineer	Area Engineer
Forest Engineer	Group Manager	District Engineer	District Engineer or Right-of-Way Officer
Ranger	Deputy State Engineer, Development Operations or State Engineer	Deputy State Engineer, Operations or State Engineer	Assistant Division Administrator
Forest Supervisor	Director	Director	Division Administrator



GUIDELINES
G. This MOU may be amended as necessary by mutual consent of all parties upon issuance of written notification of such modification, signed and dated by all parties.

# APPENDIX D: MOU BETWEEN ADOT, FHWA AZ, AND THE BUREAU OF LAND MANAGEMENT, AZ



# MOU No. AZ-931-0309 AMENDMENT #3

# MEMORANDUM OF UNDERSTANDING

# BETWEEN

THE ARIZONA DEPARTMENT OF TRANSPORTATION,
THE FEDERAL HIGHWAY ADMINISTRATION, ARIZONA,
AND
THE BUREAU OF LAND MANAGEMENT, ARIZONA

# MEMORANDUM OF UNDERSTANDING BETWEEN

# THE ARIZONA DEPARTMENT OF TRANSPORTATION, THE FEDERAL HIGHWAY ADMINISTRATION, ARIZONA, AND THE BUREAU OF LAND MANAGEMENT, ARIZONA

# BACKGROUND

# I. PURPOSE

This Memorandum of Understanding (MOU) outlines policies and procedures for the Arizona Department of Transportation (ADOT), Arizona Division of Federal Highway Administration (FHWA), and Arizona Bureau of Land Management (BLM) to establish and improve cooperative working relationships for implementing the BLM/FHWA Interagency Agreement Number AA-851-IA2-40 of July 27, 1982 (attached as Appendix A), specifically by:

- A. Developing a mutual understanding of the missions, goals, constraints and responsibilities of the BLM, ADOT and FHWA as they relate to land and resource management practices on public lands under or contiguous to ADOT highways; ADOT development and operation practices on highways located on public lands; and public lands needed for transportation purposes;
- B. Defining BLM, ADOT and FHWA organizational structures and identifying areas of cooperation to facilitate coordinated work efforts:
- Developing procedures and standardized methods for communication and coordination; and
- Minimizing duplication of work and streamlining work processes.

This MOU provides for a coordinated approach to accomplish land and resource management and transportation development and operation management in completing BLM, ADOT and FHWA goals and objectives. Such coordination is subject to the respective authorities of each agency, and is designed to reduce and, if possible, eliminate duplication of work; to establish procedures for streamlining work processes; to ensure each agency is provided sufficient lead time for proper sequential function; to make more efficient use of and share available resources; and to develop and execute action programs which maximize responsiveness to public needs and concerns.

# II. AUTHORITY

The general authorities for this MOU include, but are not limited to, the following:

- A. Federal Land Policy and Management Act of 1976 (Pub.L. 94-579; 90 Stat. 2744), as amended (43 U.S.C. 1701 et seq.).
- B. Taylor Grazing Act of 1934 (Act of June 28, 1934; 48 Stat. 1269), as amended (43 U.S.C. 315).
- C. Various Federal Aid Highway Acts codified in 23 U.S.C.

- D. National Environmental Policy Act of 1969 (Pub.L. 91-190, 83 Stat. 852), as amended (42 U.S.C. 4321 et seq.).
- E. Title IV of the Intergovernmental Cooperation Act of 1968 (Pub. L. 90-577; 82 Stat. 1098), as amended (31 U.S.C. 6501 et seq.).
- F. Federal Grants and Cooperative Agreement Act of 1977 (Pub.L. 95-224; 92 Stat. 3), as amended (31 U.S.C. 6301 et seq.).
- G. Arizona Revised Statutes Sections 28-332 and 28-334.

Other authorities, and regulations for administering such authorities, if applicable, will be cited within the supplemental Operating Agreement attached as an Appendix to this MOU. This MOU provides an operating framework for the 1982 Interagency Agreement (AA 851-IA2-40) between BLM and FHWA, and all amendments, memoranda, and other supplements thereto; and such other State of Arizona and/or Federal legislation and regulations as may apply. This MOU supersedes former MOU No. "BLM-MOU-2800-AZ931-9702", dated May 2, 1997.

# III. ORGANIZATION AND WORK FLOW

Refer to Appendix B for description of each agency's organizational structure and a map depicting the geographic boundaries of each agency's organization.

# IV. AGENCY RESPONSIBILITIES

- A. FHWA is responsible for administration and management of the Federal-aid highway program and application for right-of-way appropriation consistent with 23 C.F.R. 710.601 Subpart F.
- ADOT is responsible for the design, construction and management of the highway system within Arizona for which it has responsibility.
- BLM is responsible for administration and management of certain public lands and interests in lands within Arizona.

# V. OBJECTIVES

It is the objective of each party to cooperatively design and implement projects that promote transportation efficiency and safety, minimize impacts to the environment and are integrated to BLM land management plans.

- A. It is the objective of BLM, in collaboration with other Federal agencies, State Agencies, tribal governments and the public, to provide for a wide variety of public land uses without compromising the long-term health and diversity of the land and without sacrificing natural, cultural, and historical values.
- B. It is the objective of ADOT to provide a safe and efficient transportation system, together with the means of revenue collection, licensing and safety programs, which meets the needs of the citizens of Arizona.
- C. It is the objective of the FHWA to provide leadership, expertise, resources, and information to improve the quality and safety of Arizona's highway system and intermodal connectors in cooperation with their partners without sacrificing natural and cultural values.

### AGREEMENT

# VI. AREAS OF COOPERATION

The BLM, ADOT and FHWA recognize the need to work together to develop coordinated action plans; to establish procedures for timely disposition of issues or problems connected with the planning, scoping, environmental studies, design, construction and maintenance of public road systems on BLM-managed public lands in the State of Arizona; and to achieve maximum efficiency from their respective agency funds and personnel. Therefore the parties hereto agree to:

- Develop a mutual understanding of each other's missions, goals and objectives.
- B. Develop effective communication by: 1) taking advantage of existing and new forums for issue identification; 2) defining and eliminating communication barriers; and 3) sharing information using appropriate communication vehicles, such as E-mail, video conferencing, etc.
- C. Achieve effective conflict resolution by: 1) developing and implementing a process for resolving conflicts (see Section VIII of this MOU); 2) maintaining a commitment to use the process developed; 3) honoring past commitments; 4) maintaining a solutions-oriented approach; and 5) recognizing the need for flexibility, especially to meet the public safety needs.
- D. Streamline and improve timeliness of review processes by: 1) early involvement of all relevant parties through proactive participation; 2) pooling and sharing of expertise and resources; 3) striving for a single point of contact; 4) eliminating unnecessary paperwork and processing steps; and 5) removing, where feasible and appropriate, FHWA from routine right-of-way transactions.
- E. Coordinate planning processes by: 1) holding, at a minimum, yearly coordination meetings; 2) integrating transportation needs with BLM land use plans; 3) using an interdisciplinary approach throughout all processes; and 4) developing consensus on the environmental review process.
- F. Develop and maintain effective teamwork by: 1) undertaking additional training in team building and partnering; 2) striving for mutual respect; and 3) evaluating the resulting partnership on an annual basis.
- G. Follow the established roles, responsibilities and operating procedures as outlined in the Operating Agreement attached hereto as Appendix C.

In addition, the BLM, ADOT and FHWA agree to develop a programmatic approach to streamline interagency coordination of the NEPA process and reduce repetitive documentation for low impact projects.

# VII. COORDINATION MEETINGS

The BLM, ADOT and FHWA agree to hold coordination meetings as follows:

- A. Local coordination meetings or contacts between each BLM Field Office and corresponding ADOT Districts will be held as often as needed, but not less frequently than annually. Attending these meetings will be the BLM Field Manager, FHWA and ADOT District Engineers, and appropriate staffs. The meetings will be scheduled by joint action of the BLM Field Managers and ADOT District Engineers. Other groups, agencies and individuals, as deemed necessary or beneficial to the intent of the meeting, may be invited to attend. The purpose of these local meetings is to:
  - Share information and keep each other informed of progress on ongoing projects and the partnering effort, including developing action items.
  - Review agency responsibilities, programs and priorities, including preliminary plans which may develop into future cooperative efforts.
  - Identify additional opportunities for improvement that may require the attention and/or support of the next level of management and/or should be included on the agenda for the State meeting.
  - Work out exchanges of materials, workers or equipment on a temporary basis and on specific case related work areas where such an arrangement would be to the mutual benefit of the BLM, ADOT and FHWA.
- B. Statewide meetings as necessary, but not less frequently than annually, and preferably after concluding all the local meetings, will be scheduled by joint action of the BLM State Director, ADOT State Engineer, and FHWA Division Administrator or their respective designees. Agenda items and participants will be discussed as needed before the meeting. The purposes of the State meetings are to:
  - Discuss each agency's short and long range plans, annual work plans, and programming processes to provide adequate time for submission of budget requests to ensure simultaneous scheduling of programs and completion of scheduled work.
  - Develop and maintain procedures designed to coordinate BLM, ADOT and FHWA work on a statewide basis.
  - Review priorities and designate critical functional and/or geographical areas.
  - Conduct joint evaluations of the coordination efforts and review of plans and/or completed work.

# VIII. CONFLICT RESOLUTION

All parties hereto agree to work cooperatively to minimize conflicts in implementation of this MOU. Where an impasse has been reached, each party agrees to involve relevant agency management as necessary to resolve the conflict as quickly as possible. Final resolution of any continuing impasse will be a matter for determination by the State Director, BLM, Arizona State Office; Director, ADOT; and Division Administrator, FHWA, or their respective designees.

A. If an impasse remains, it shall be escalated as follows:

BLM	ADOT PROGRAM DEVELOPMENT	ADOT CONSTRUCTION	ADOT MAINTENANCE	FHWA
Project Manager	Project Manager	Resident Engineer	District Maintenance Engineer/State Natural Resources Manager	Area Engineer or Right-of-Way Officer
Field Manager & District Manager	Group Manager	District Engineer	District Engineer/State Maintenance Engineer	Senior Engineering Manager Operations
Deputy State Director, Resources	Deputy State Engineer, Development and/or Operations or Development or State Engineer	Deputy State Engineer, Operations or State Engineer	Deputy State Engineer, Operations and/or State Engineer	Assistant Division Administrator
State Director	Director	Director	Director	Division Administrator

- B. When the representatives at the lowest level for each party have reached an impasse and have agreed to escalate an impasse, a meeting date will be established within a time acceptable to all parties. At that time, representatives from both levels will meet to discuss the issues related to the impasse and attempt resolution. If an agreement cannot be reached, then the issue will be escalated to the next level and a meeting date will be established within a time acceptable to all parties. At that time, representatives from all three levels will meet to discuss the issues related to the impasse and attempt resolution. If an agreement cannot be reached, the issue will be escalated to the highest organizational level and a meeting date will be established within a time acceptable to all parties. At that time, all parties at all levels will meet to resolve the issue. If resolution cannot be secured, then at the option of any of the parties hereto, and pursuant to section IX.F. herein, this MOU may be terminated.
- The parties hereto agree that any resolution to an impasse secured through the

conflict resolution process set forth in this section shall be communicated in writing to all parties (with any communication including the technical, policy or business rationale for the resolution).

# IX. ADMINISTRATION

- A. Each party hereto shall fund any activities which it may undertake pursuant to this MOU, or may, on a voluntary basis, assist other parties in the implementation of this MOU. However, if the voluntary assistance identified herein involves a substantial commitment of personnel or other resources, the parties may enter into an appropriate interagency agreement. Nothing in this MOU shall be construed as obligating any of the parties to expend in excess of appropriations authorized by law and administratively allocated for the purposes set forth in this MOU.
- B. BLM and FHWA agree to assume liability for any act or omission of its officers, employees or agents only to the extent legally permissible under the Federal Tort Claims Act, 28 U.S.C. 2671 et seq.
- C. No member of, or delegate to, Congress shall be admitted to any share or part of this MOU, or to any benefit that may arise there from, but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.
- D. All parties to this MOU shall comply with all Federal Statutes, including but not limited to those relating to nondiscrimination, employments and civil rights.
- E. This MOU is subject to all applicable Federal and State laws and regulations. Nothing in this MOU is intended to conflict with any Federal statute or regulation. If a conflict is determined to occur, applicable Federal statutes and regulations shall control.
- F. This MOU shall become effective upon signature by all parties and shall continue in effect unless and until it is terminated by written request of at least one of the parties hereto. This MOU shall terminate following the expiration of 30 days after written notice to the other parties of intent to terminate by any party.
- G. This MOU may be amended as necessary by mutual consent of all parties upon issuance of written notification of such modification, signed and dated by all parties.

# X. SIGNATURES

IN WITNESS WHEREOF, the parties hereto have caused Amendment #2 to be executed by the Director, Arizona Department of Transportation; the Division Administrator, Federal Highway Administration, Arizona; and the State Director, Bureau of Land Management, Arizona, on this 16<sup>th</sup> day of October, 2007.

ARIZONA DEPARTMENT OF TRANSPORTATION	
BY: Victor Mondez Director	10/17/07 Date
7	
BY: Adult Jollan Robert E. Hollis Arizona Division Administrator	15/17/07 Date
SUREAU OF LAND MANAGEMENT, ARIZONA	
BY: Eslace 4. Brokerski Flaine Y. Zielinski State Director	70/17/07 Date

MOU No. AZ-931-0309 → Amendment #3 10/16/2007

# APPENDIX E: OPERATING AGREEMENT BETWEEN BLM, ADOT AND FHWA

OPERATING AGREEMENT RELATED TO HIGHWAY PROJECTS BETWEEN THE BUREAU OF LAND MANAGEMENT, ARIZONA, THE ARIZONA DEPARTMENT OF TRANSPORTATION AND THE FEDERAL HIGHWAY ADMINISTRATION, ARIZONA

### **BACKGROUND**

# I. HISTORY

In January 1997, Arizona Department of Transportation (ADOT), Bureau of Land Management (BLM), and Federal Highway Administration (FHWA) held a two-day partnering workshop to begin enhancing and streamlining coordination among the three agencies. A Partnering Charter was developed, and on May 2, 1997, a Memorandum of Understanding (MOU) between the three agencies became effective. The MOU was purposely written as a general "umbrella" agreement with the intent that one or more Operating Agreements would be developed to supplement the MOU. The original MOU has been revised and replaced by MOU No. AZ-931-0309 dated April 23, 2003.

# II. PURPOSE

The purpose of this Operating Agreement is to supplement MOU No. AZ-931-0309 dated "April 23, 2003, as amended September 10, 2004, to establish roles, responsibilities, and operating procedures between ADOT, BLM and FHWA relating to highway projects on lands administered by BLM.

### III. AUTHORITY

MOU No. AZ-931-0309 and authorities cited therein. BLM policy for implementing these authorities is contained in BLM Manual 2805 – Federal Agencies.

# **AGREEMENT**

# IV. RESPONSIBILITIES

- A. FHWA will be the lead federal agency with the responsibility to comply with the National Environmental Policy Act, as amended (NEPA), National Historic Preservation Act as amended (NHPA), Endangered Species Act as amended (ESA), and other legal requirements for all Title 23 transportation-related projects on land administered by BLM. FHWA will invite, in writing, BLM to be a cooperating agency.
- B. BLM will be the lead federal agency with the responsibility to comply with NEPA, NHPA, ESA, and other legal requirements for the development of all BLM land management plans and amendments and on transportation-related projects without FHWA involvement. BLM will invite, in writing, FHWA and ADOT to be cooperating agencies in developing and amending its land use plans. In the event of a project using Federal-aid funds on a nontransportation related project (i.e. some Transportation Enhancement projects), the BLM Field Office will contact FHWA to discuss the specific roles of each agency.
- C. ADOT will be co-lead agency and will serve as FHWA's agent in the project development process for Title 23 projects.

# V. LONG RANGE PLANNING

(RESERVED)

# **VI Title 23 Projects**

Unless otherwise stated in this text, "necessary environmental clearances" shall be understood to mean compliance with the National Environmental Protection Act (NEPA), Section 7 of the Endangered Species Act (ESA), Section 106 of the National Historic Preservation Act (NHPA) and all other pertinent and applicable federal and state environmental protection laws.

# A Agency Roles

- 1. As the lead federal agency for highway projects eligible for funding pursuant to 23 United States Code (U.S.C. Title 23), FHWA is ultimately responsible for compliance with NEPA and other necessary environmental clearances. No NEPA decision is required by BLM/for a Title 23 U.S.C. funded highway project unless the proposed action does not conform to BLM's/'s land use plan for the affected lands. BLM and USFS, as federal land managers on public lands, retain responsibility for enforcement of, and compliance with, the Native American Graves Protection and Repatriation Act (NAGPRA) and the Archaeological Resources Protection act (ARPA). In situations where a land use plan amendment is required, the NEPA analysis and documentation must meet both FHWA and BLM/ regulatory standards.
- 2. Unless otherwise agreed, ADOT serves as FHWA's agent in meeting FHWA's responsibility for NEPA and other necessary environmental clearances.
- 3. ADOT Environmental Protection Group (EPG), or its designated consultant, will coordinate with the appropriate BLM/Field Office(s) where BLM-/ -managed lands needed for highway purposes are located during the various stages of a highway project.

# **B Early Project Coordination**

- Early in the planning and NEPA stages of a Federal-aid-eligible highway project on BLM-/ -managed lands, FHWA will send written notification of the project to all affected BLM/ field offices and to ADOT EPG stating the following:
  - An invitation to BLM/ to participate as a cooperating agency.
  - Request that BLM/ identify known issues and concerns relating to protection of valid existing rights and resources on managed lands that are potentially affected by the project.
  - Request that BLM/ determine if the proposed project will conform with BLM/ land use plans.
- 2. BLM/ will provide a written response to FHWA and ADOT EPG within 30 days after receipt of the notification acknowledging and/or supplying the following:
  - Receipt of the notification.
  - Verification that the project is or is not in conformance with BLM/ land use plans.
  - Verification of BLM/ role as a "cooperating agency with special expertise" or, when a land use plan amendment is not required, a "cooperating agency with jurisidiction."
  - Information regarding wildlife, wildlife habitat, threatened or endangered plant or animal species, special fencing needs, grazing, cultural resources, valid existing rights, etc.
  - Name, phone number and email address of the designated point of contact (BLM/ project manager).
  - BLM/ serial number assigned to project.
- 3. When more than one BLM/ Field Office will be affected by the proposed project, the BLM/ State Director will designate a Lead Office that will then assign a Project Manager. The BLM/ Project Manager will send written notification to FHWA, with a copy to ADOT, identifying which office is the BLM/ Lead Office.

- 4. The BLM/ Project Manager will coordinate with all other BLM/ Field Offices affected by the project and will provide consolidated responses to ADOT and FHWA on issues affecting BLM-/-managed lands throughout the life of the project.
- 5. The BLM/ Serial Number, the FHWA Project Number, and the ADOT TRACS Number(s) or Material Site Number will be referenced on all future correspondence relating to the project, whether correspondence is by formal letter, email, or fax transmittal.

# C Development of Environmental Document

- Before any public/agency scoping meetings are held, BLM/, FHWA, and ADOT will meet to identify the
  primary points of contact for each agency and determine members needed on the Inter-disciplinary
  (ID) Team. The ID Team will meet on a regular basis to discuss and resolve issues pertaining to (but
  not limited to) alternatives, methodology, potential mitigation, and levels of analysis. The ID Team
  will also develop a team partnering charter that identifies the roles and responsibilities of each
  member.
- 2. At the beginning of each ID Team meeting, the team will review, modify if necessary, and approve the minutes from the previous meeting. These minutes will serve as the documentation which demonstrates the issues on which the team has, or has not, reached consensus.
- Every attempt will be made to resolve differences relating to measures BLM/ may feel are necessary
  for protection of adjacent BLM-/-managed lands and resources. If agreement cannot be reached at
  the lowest level of each organization, the dispute resolution process described in the MOU shall be
  followed.
- 4. BLM/ will have opportunity to formally review the NEPA and engineering documents and provide written comments to FHWA, with copies to ADOT EPG, within the following times (see attached Illustration 1 [2 pages]):
  - Administrative draft of the Categorical Exclusion (CE), Environmental Assessment (EA), or Environmental Impact Statement (EIS) - 30 to 45 days after receipt.
  - Initial Design Concept Report (DCR) 30 to 45 days after receipt.
  - Draft EA or EIS during the public comment period 30 days after receipt for an EA, and 45 days after receipt for an EIS.
  - Administrative final EA or EIS 30 days after receipt.
- 5. The BLM/ Project Manager shall provide FHWA a letter, signed by the BLM/ Authorized Officer, supporting the findings for inclusion in the Final EA or EIS.
- 6. Field reviews may be scheduled by ADOT, their consultant, FHWA, or BLM/. Review of project submissions, environmental documentation and participation in field reviews provides the opportunity for BLM to identify specific concerns relating to resource issues on BLM-/ -managed lands throughout the entire NEPA process. This will ensure adequate time for all parties to discuss and come to resolution regarding specific mitigation measures to be implemented for the project.
- 7. ADOT and FHWA will mitigate highway construction impacts to resources on BLM-/-managed lands in a practical and reasonable manner. Proper highway design, including safety, is the responsibility of ADOT and FHWA. Where conflicts arise in selection of project design features, highway safety will be the overriding factor.
- 8. Special measures which BLM/ believes are necessary to protect BLM-/ -managed lands adjacent to but outside the right-of-way will be discussed with the ID Team during the early consultation, environmental analysis, and throughout the design phases of the project. The BLM/ Project Manager will submit, in writing to ADOT with a copy to FHWA, any special measures determined necessary for protection of BLM-/ -managed lands or resources, along with a rationale for each measure identified. Upon agreement with such protective measures, ADOT will reply, in writing with a copy to FHWA, that such measures will be included in the project design. If ADOT disagrees with the identified measures, ADOT will provide a written response to BLM/, with copy to FHWA, stating the rationale for not agreeing to inclusion of the measures in the project design. All such documentation will be included in the Project Reference (see Section D below).

# D Project Reference

See Appendix K.

# E Project Design

In addition to the opportunities for formal review and comment during the NEPA process discussed above in Section VI.C.4, BLM/ will also have opportunity for review and comment during the design process as follows:

- 1. During the design kickoff meeting and/or field review;
- 2. At the monthly progress meetings;
- 3. During the Stage I, Stage II, and Stage III plan reviews; and
- 4. On any subsequent NEPA re-evaluations or supplemental analysis.

BLM/ will provide all comments resulting from such reviews in writing to the ADOT Project Manager, with a copy to FHWA.

# F Appropriation Process

See Appendix F.

**G** Construction

See Chapter 10.

H Operation, Maintenance and Minor Rehabilitation

See Chapter 11.

I Disposal of Title 23 Rights-of-Way

See Appendix F.

# 2.4 Non-Title 23 Projects

In this Operating Agreement, "necessary environmental clearances" shall be understood to include the following: compliance with the National Environmental Policy Act (NEPA), Section 7 of the Endangered Species Act (ESA), Section 106 of the National Historic Preservation Act (NHPA), and all other pertinent and applicable federal and state environmental protection laws. As it relates to this Operating Agreement, there are two basic types of uses for which ADOT could request authorization from BLM. One type of use would be a right-of-way (ROW) or temporary use permit (TUP) pursuant to Title V of the Federal Land Policy and Management Act (FLPMA), as amended (43 U.S.C. 1761-1771) and the implementing regulations at 43 C.F.R. Part 2800. The other type of use would be a Title 30 Free Use Permit (FUP) for materials pursuant to the Act of July 31, 1947, as amended (30 U.S.C. 601), and the implementing regulations at 43 C.F.R. Part 3600.

# 1. Agency Roles

a. As the lead federal agency for non-Title 23 projects, BLM is ultimately responsible for

compliance with NEPA and other necessary environmental clearances. BLM is also responsible for enforcement of, and compliance with, the Native American Graves Protection and Repatriation Act (NAGPRA) and the Archaeological Resources Protection Act (ARPA). BLM is the lead federal agency for development of all BLM land use plans (LUP) and amendments to such plans.

- b. FHWA typically has no role in non-Title 23 actions occurring on BLM-managed land.
- c. ADOT's role in obtaining a non-Title 23 eligible use of BLM-managed lands is that of Applicant. In situations where a contractor is ADOT's authorized agent, ADOT would still be considered the Applicant.

#### 2. NEPA Evaluation

As lead federal agency for compliance with NEPA, BLM must adhere to the following:

- a. Council of Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA, 40 C.F.R., Part 1500;
- b. Department of the Interior Manual (DOI), 516 DM 1-15; and
- c. BLM Manual Section 1790, National Environmental Policy Act and the accompanying handbook, H-1790-1, National Environmental Policy Act Handbook. This guidance emphasizes use of existing environmental analyses, when available, to avoid duplication.

# 3. Title V Rights-of-Way/Temporary Use Permits

Use of public land for highway-related purposes that are not eligible for Title 23 funding requires written authorization by BLM, unless the proposed use is determined by the BLM Authorized Officer (AO) to be casual use. Examples of casual use include driving vehicles over existing roads, surveying, marking routes, collecting data to prepare an application for a use authorization, and certain other activities that do not cause any appreciable disturbance or damage to the public lands, resources, or improvements.

It is anticipated that there will be few situations where ADOT will need to obtain a right-of-way (ROW) or temporary use permit (TUP) for use of public lands pursuant to Title V of the Federal Land Policy and Management Act (FLPMA) and the implementing regulations at 43 C.F.R. Part 2800. A contractor, on the other hand, is more likely to need a ROW or TUP for highway-related uses outside the highway ROW. The entire process is elaborated herein to ensure better understanding of the full process that BLM is required to follow in considering any application for a ROW or TUP on public lands, whether the application is filed by ADOT or by a contractor.

ADOT is exempt from paying cost recovery fees and rental when obtaining a ROW or TUP. A contractor, however, is required to pay cost recovery and rental for a ROW or TUP on public lands, unless the contractor is officially designated by ADOT to serve as ADOT's authorized agent. In such cases, ADOT would still be considered the Applicant and any authorization would be issued to ADOT, not the contractor. The following discussion is written as though ADOT, or a contractor serving as ADOT's authorized agent, is requesting a ROW or TUP, and therefore, contains no references to payment of cost recovery or rent.

# a. Early Project Coordination

i. Early in the development of a project, ADOT will establish contact with the BLM Field Office responsible for managing the affected public lands to arrange a preapplication meeting so that potential constraints may be identified and processing of an application tentatively scheduled. The objective of the pre-application meeting, which may be held in the office or on site, is to expedite application processing by fostering a mutual understanding of the process and the needs of both ADOT and BLM.

- ii. When more than one BLM Field Office will be affected by the proposed project, the BLM State Director will designate a Lead Office that will then assign a Project Manager. The BLM Project Manager will send written notification to ADOT identifying which office is the BLM Lead Office.
- iii. The BLM Project Manager will coordinate with all other BLM Field Offices affected by the project and provide consolidated responses to ADOT on issues affecting BLM-managed land throughout the life of the project.

# b. Application Filing

- i. ADOT will submit an application for ROW or TUP (SF-299, available by accessing BLM's internet website www.blm.gov, then selecting "What We Do", "Lands and Realty", "Right-of-Way Information") to the appropriate BLM Field Office. The application may be submitted by mail, fax transmission, or in person.
- ii. The BLM Serial Number and ADOT project reference number will be referenced on all future correspondence relating to the project, whether correspondence is by formal letter, email or fax transmittal.
- iii. The directions for completing the SF-299 application are contained on the form. Items 1, 3, 4, 5, 7, 8, 10, 12, 19, signature and date are required. Items 2, 6, 11 are required only if applicable. Items 9, 13, 14, 15, 16, 17, and 18 are optional. The Supplemental Page is only required if the project is an oil or gas pipeline.

# c. Application Processing

- i. BLM will review the application to determine whether: (1) the form is complete; (2) the map is submitted and adequately shows the public lands and the proposed project in relationship to other on-the-ground uses; and (3) the application is properly signed and dated. BLM will notify ADOT if any deficiencies in the application are found and identify what is needed to correct such deficiencies.
- ii. Upon acceptance of a complete application package, BLM will conduct an internal "administrative scoping" of the proposal to schedule, coordinate and determine the level of effort required to process the application.

#### d. NEPA Processing Time

- i. Proposals that are categorical exclusions (CX) for either BLM or DOI should be processed within 30 days. Proposals requiring environmental assessments should be processed within 60 days. If processing the application and reaching a decision on whether or not a ROW or TUP may be authorized is expected to take longer than 60 days, BLM will notify ADOT in writing and provide an explanation for the delay and an estimate of when the processing of the application may be completed.
- ii. To expedite the NEPA analysis, ADOT may choose to assist BLM in processing the application by offering to prepare or contract preparation of all or part of any special study or environmental assessment (EA) to BLM standards. If it is determined that an Environmental Impact Statement (EIS) is required, BLM will immediately notify ADOT and request a meeting to discuss the anticipated schedule for complying with NEPA. BLM must select the NEPA contractor for an EIS level analysis.

#### e. Offer to Grant

- i. An "offer-to-grant" (Illustration 15) is used to offer the ROW or TUP and obtain ADOT's written acceptance of the terms and conditions of authorization. The offerto grant package consists of:
  - 1. offer letter:
  - 2. ROW or TUP (BLM Form 2800-14) and other attachments, as appropriate.
- ii. ADOT signifies agreement with the terms and conditions of the ROW or TUP by signing and dating Form 2800-14 and returning it to BLM within 30 days of receipt.
- iii.Upon receipt of the signed Form 2800-14 from ADOT, the BLM AO will sign and date the form. The Grant becomes effective when signed by the BLM AO.

#### f. Decision

- Decisions are used to take BLM's final and formal action on an application (Illustration 16). A final Decision of the BLM AO is subject to appeal to the Interior Board of Land Appeals (IBLA).
- ii. BLM is required to send a copy of its Decision and supporting analysis to any party who may be adversely affected by the Decision, otherwise they shall be made available upon request. Either ADOT or any party who may be adversely affected by BLM's Decision may file an appeal. If an appeal is filed, the Decision remains in full force and effect unless the appellant petitions for, and IBLA grants, a stay of the Decision pending IBLA's final ruling.

# g. Term of Authorization

- Term of the ROW shall be specific and is dependent upon a reasonable period of time needed to accomplish the purpose of the authorization. Most ROW grants are renewable.
- ii. Term of a TUP is 3 years or less and is not typically renewable.

#### h. Relinquishment/Termination of Right-of-Way

i. When the ROW or TUP is no longer needed, Holder will notify the affected BLM Field Office to arrange a joint inspection of the ROW or TUP to finalize a plan for rehabilitation. The rehabilitation plan will be documented in writing and concurred with, in writing, by both Holder and the BLM AO. Upon satisfactory completion of rehabilitation, the Holder will relinquish the ROW or TUP and BLM will accept the relinquishment, in writing, and close the case.

#### i. D. Title 30 Use Permits

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APPENDIX F: EASEMENT DEVELOPMENT

#### **DEVELOPMENT OF EASEMENTS**

Proposed alignments and associated easements are identified during Project Scoping. It is important to recall that during the Project Scoping phase, requirements regarding environmental and engineering issues are identified during the NEPA process and these requirements may impact the location and size of the project easement.

When constructing highway corridors on lands managed by the BLM or the United States Forest Service (USFS), those federal agencies retain ownership of the land and grant easements to the ADOT for the operation and maintenance of that highway. When the ADOT determines that a highway corridor is no longer needed, the easement created for that corridor is terminated and responsibility for managing that former corridor reverts back to the BLM or the USFS.

# **USFS PROCESS**

# REQUEST FOR APPROPRIATION

- ADOT shall meet with the appropriate Forest Service Representative (FS) and discuss the project and possible alignments as early in the process as possible. The ADOT shall solicit comments regarding the proposed alignments from Forest Service staff.
- 2. After concluding that the use of the desired lands for the highway project is consistent with the Forest Plan and the completion of NEPA; the ADOT will submit a formal Request for Appropriation to the FHWA Realty Officer in accordance with 23 CFR Part 710.601 (c), requesting concurrence that the USFS-managed lands are reasonably necessary for the project. The Request for Appropriation may include a request for more than one project.
- 3. In accordance with 23 CFR Part 771, 40 CFR 1501.6, and 1501.5(b),(c), and (e), it will be the responsibility of the FHWA to comply with NEPA and other legal requirements in arriving at its determination that the lands are reasonably necessary for the project, and the USFS will act as a cooperating agency or, at the discretion of the FHWA, as a joint lead agency in the development of any required NEPA document. The FHWA and the USFS will coordinate on the determination of the appropriate environmental analysis.
- 4. The FHWA will submit to the USFS, a detailed and documented request for the lands needed for the project including lands permanently required for the project and lands required for temporary construction activities. The request will include a statement

that the desired lands are reasonably necessary, and will include the following documents:

- a. Reference to the final, approved NEPA document by name and date, for the land transfer and, if available at the time of request, the NEPA document for the project, a copy of which will have already been provided to the FS by the ADOT. The name and contact information for an ADOT person for questions or other required information.
- b. Right-of-Way Plans and plat maps for rights-of-way requested; and
- c. Legal description of the requested permanent right-of-way and separate description of temporary right-or-way.
- 1. The FS will acknowledge receipt of the formal Request for Appropriation within 30 days, as follows:
  - a. If the package is incomplete, the FS will send notification, preferably via an email, to the ADOT contact person, with copy to the FHWA, to state the package is incomplete and identify what is missing.
  - b. If the package is complete, and the FS agrees to the appropriation the FS will follow the procedures in Section 3.2.2 and 3.2.3 below. If the package is complete, but the FS does not agree to the appropriation, the FS will follow the procedures in Section 3.2.4 below.

# AGREEMENT TO APPROPRIATION

- Agreement to the request for appropriation will be in the form of a Letter of Consent (LOC), signed by the USFS Authorized Officer in accordance with Section 3.2.3 below.
- 2. The LOC will be addressed to the FHWA Division Administrator but will be sent directly from the USFS to the ADOT representative, with a copy to the FHWA Realty Officer. The LOC will cover both the permanent easement, and any identified temporary construction easements (TCEs).
- 3. After receipt of the LOC, the ADOT will complete the appropriate Highway Easement Deed (HED) and submit the deed to FHWA for signature. The HED will be certified by an attorney duly licensed within the State of Arizona, unless the deed meets the requirements for certification under the programmatic certification on file with the ADOT Chief Right of Way Agent and the Arizona Attorney General's office.
- 4. After execution by the ADOT Chief Right of Way Agent and the FHWA Division Administrator, the ADOT will have the HED recorded in the appropriate county or

- counties, and submit three (3) copies of the recorded HED to the USFS and one (1) to the FHWA Realty Officer.
- 5. Rehabilitation of TCEs lying outside of the permanent right-of-way will be coordinated between the ADOT and the USFS. Any rehabilitative measures will be identified at the time of the joint inspection further described in section 13.15 of this document. Any, agreed, rehabilitative measures will be performed by ADOT (or ADOT's contractor) prior to completion of the project. TCE's authorized by the LOC or HED shall expire upon completion of the project.

#### CONDITIONS OF APPROPRIATIONS

The following conditions as agreed to by the USFS, the ADOT and the FHWA will be specifically included as conditions to the consent for appropriation of lands and incorporated into each LOC and HED, in which the Grantee is defined as ADOT. Additional conditions identified in the USFS's consent to the appropriation, and thus the LOC and HED, are subject to the ADOT and the FHWA's concurrence and conformance with this easement is subject to

- 1. outstanding valid claims, if any, existing on the date of this grant, and the Grantee shall obtain permissions as may be necessary on account of any such claims;
- 2. The Grantee and the Forest Supervisor shall make determination as to the necessity for archaeological and paleontological reconnaissance and salvage within the right-of-way, and such reconnaissance and salvage to the extent determined necessary because of construction or reconstruction of the highway facility, is to be undertaken by the Grantee in compliance with the acts entitled "An Act for the Preservation of American Antiquities", approved June 8, 1906 (34 Stat. 225, 16 U.S.C. 432-433), the National Historic Preservation Act of 1966 as amended through 2000 (16 U.S.C. 470 et seq), the Archaeological Resources Protection Act of 1979 (93 Stat. 721, 16 U.S.C. 470 aa II), the Native American Grave Protection and Repatriation Act approved November 16, 1990 (104 Stat. 3048, 25 U.S.C. 3002(d):43 CFR Part 10.4), and State laws where applicable.
- 3. The easement herein granted shall terminate twenty (20) years from the date of the execution of this deed by the United States of America in the event construction of a highway on the right-of-way is not started during such twenty-year-period.
- 4. The easement herein granted is limited to use of the described right-of-way and the space above and below the established grade line of the highway for the purposes of construction, reconstruction, maintenance, and operation of the highway in accordance with the approved plans, as identified at the end of the property description above and does not include the grant of any rights for non-highway purposes or facilities:

Provided, that the right of the Forest Service to use or authorize the use of any portion of the right-of-way for non-highway purposes shall not be exercised when such use would be inconsistent with the provisions of Title 23 of the United States Code and of the Federal Highway Administration regulations issued pursuant thereto or would interfere with the free flow of traffic or impair the full use and safety of the highway, and, in any case, the Grantee and the Federal Highway Administration shall be consulted prior to the exercise of such rights;

Provided further, that the Forest Service may locate National Forest and other Department of Agriculture information signs on the portions of the right-of-way outside of construction clearing limits; and all signing within the right-of-way, except temporary emergency fire suppression signing, will be approved by the Grantee and compliant with the Manual on Uniform Traffic Control Devices (MUTCD), where applicable.

The Forest Supervisor will be provided an opportunity to review plans relative to effects, if any, that the project works as planned will have upon adequate protection and utilization of the land traversed by the right-of-way and adjoining land under the administration of the Forest Service for the purposes for which such land is being administered. Those features of design, construction, and maintenance of the highway facility and of use of the right-of-way that would have effect on the protection and utilization of the land under the administration of the Forest Service are to be

mutually agreed upon by the Forest Supervisor and the Grantee by conference or other communication during the preparation of the plans and specifications for each construction project, and the plans shall be revised, modified, or supplemented to meet the approval of the Forest Supervisor, or when deemed appropriate, supplemented by written stipulation between the Forest Supervisor and the Grantee, prior to the start of construction.

- 5. The final design and construction specifications for any highway construction project on the right-of-way shall be presented to the Forest Supervisor for approval; construction or reconstruction shall not begin until such approval is given: Provided, that if it is subsequently deemed necessary that the approved plans, specifications or stipulations be amended or supplemented, any amendment or supplement shall be approved by the Forest Supervisor and the Grantee before construction or reconstruction begins.
- 6. Consistent with highway safety standards, Grantee shall:
  - a. protect and preserve soil and vegetative cover and scenic and esthetic values on the right-of-way outside of construction limits;

- b. provide for the prevention and control of soil erosion within the right-of-way and adjacent lands that might be affected by the construction, operation, or maintenance of the highway;
- c. vegetate and keep vegetated with suitable species all earth cut or fill slopes feasible for revegetation or other areas on which ground cover is destroyed where it is deemed necessary during a joint review between the Forest Supervisor and the Grantee prior to completion of the highway;
- d. maintain all terracing, water bars, leadoff ditches, or other preventive works that may be required to protect adjacent National Forest System lands. This provision shall also apply to slopes that are reshaped following slides which occur during or after construction.
- 7. The Grantee shall not establish the following within the right-of-way, unless shown on approved construction plans, without first obtaining approval of the Forest Supervisor: borrow, sand, or gravel pits; stone quarries, permanent storage areas; sites for highway operation and maintenance facilities, camps, supply depots, or disposal areas.
- 8. The Grantee may maintain the right-of-way clearing by means of chemicals only IF the Forest Supervisor has given specific written approval. Application for such approval must be in writing and must specify the time, method, chemicals, and the exact portion of the right-of-way to be chemically treated.
- 9. The Grantee may remove mineral material and vegetation as necessary for the construction, maintenance, and safe operation of the highway subject to the following:
  - a. a.the Forest Service will retain the right to any merchantable timber within the boundaries of the appropriation. The Grantee shall notify the Forest Service when timber is scheduled to be removed. The Forest Service will determine what method of sale or storage of the timber shall be utilized;
  - b. b. the Forest Service will retain the right to any mineral materials within the boundaries of the appropriation. The Grantee shall notify the Forest Service when mineral material is scheduled for removal and use within or disposal outside the appropriation area. The Forest Service will determine if the material has value and what method shall be utilized to recover any such value for the United States.
- 10. Upon termination of this easement, the Grantee shall remove, within a reasonable time, any structures and improvements, and shall restore the site to a condition satisfactory to the Forest Supervisor, unless an alternative agreement is reached by both parties and documented in writing. If the Grantee, within a reasonable period,

fails to remove the structures or improvements and restore the area, or to implement the alternative agreement, the Forest Supervisor may order the removal and disposal of any improvements and restore the area at Grantee's expense.

- 11. When need for the easement herein granted shall no longer exist and the area has been reasonably rehabilitated to protect the public and environment, the GRANTEE shall give notice of that fact to the DEPARTMENT and the Forest Service and the rights herein granted shall terminate and the land shall revert immediately to the full control of the Forest Service or assigns.
- 12. The Grantee, in consideration of the conveyance of said land, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns that:
  - a. a.no person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed;
  - b. b.the Grantee shall use said land so conveyed in compliance with all requirements imposed by or pursuant to Title 49, Transportation, subtitled A, Part 21, Code of Federal Regulations (49 CFR §21.1 to §21.23), pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 242, 42 U.S.C. §2000d to §2000d-4).
- 13. In the event of breach of any of the above mentioned nondiscrimination conditions, the DEPARTMENT shall have the right to re-enter said land and facilities on said land, and the above-described land and facilities shall thereupon revert to the full control of the Forest Service or assigns.

# DISAGREEMENT TO APPROPRIATIONS

As a result of the cooperative process developed by FHWA, ADOT and the parties believe it is highly unlikely USFS would issue a formal disagreement to an appropriation request.

However, if such a unique situation were to arise, disagreement to a request for appropriation would be in the form of a letter, signed by the applicable FS, with supporting documentation clearly substantiating that:

- 1. Appropriation would be contrary to the public interest;
- 2. Appropriation would be inconsistent with the purposes for which the USFS-managed lands or minerals are managed; or

3. FHWA and ADOT will not accept the conditions USFS determines necessary for protection of the USFS-managed land or resources.

## APPROPRIATION BY OPERATION OF LAW

If, within four months, from the receipt of the request delivered in accordance with Section 3.2.1 above the USFS has not responded, in writing, to the Request forAppropriation, such land may be considered appropriated by FHWA under the authority of Title 23 USC Section 317 and transferred to the ADOT for the purposes requested. Before exercising this authority, FHWA will notify the USFS that it has appropriated the land.

# **DISPOSAL OF TITLE 23 RIGHTS-OF-WAY**

This section establishes procedures for disposal of Title 23 rights-of-way on USFS-managed lands that the ADOT determines are no longer needed for state transportation purposes that will revert to the USFS as provided in the HED.

If the 20-year use requirements provided for in the Conditions of Appropriation in the HED are not met, USFS will notify the ADOT and the FHWA in writing. The letter will request a meeting to discuss the inactive project within 30 days. At the request of the USFS, the ADOT will follow the procedures below.

Disposal of Existing Title 23 Highway Rights-of-Way on USFS Lands No Longer Needed For Transportation Purposes:

- a. Prior to disposal of Title 23 rights of way on USFS-managed lands, ADOT District Office will send written notification to the affected FD, with a copy to the FHWA, of its intent to dispose. FHWA concurrence will be obtained.
- b. ADOT will arrange a joint inspection of the facility with the appropriate staff from the USFS, ADOT District Office, and the FHWA to finalize a plan for disposal and rehabilitation. The Rehabilitation Plan and any supplemental agreements thereto, will be documented in writing and signed by the ADOT and the USFS Authorized Officer (USFS AO). NOTE: Should new construction eliminate the need for existing Title 23 rights-of-way, rehabilitation proposals will be developed during the design process.
- c. Upon satisfactory completion of rehabilitation by the ADOT and written acceptance by the USFS AO, ADOT District will initiate Recommendation for Disposal (Form 60-3311).
- d. When the ADOT Right of Way Titles Section receives a Recommendation for Disposal (Form 60-3311) from an ADOT District Office, a letter of notification of disposal commencement will be provided to the FHWA, and the affected FD,

ADOT District Engineer, and ADOT Right of Way Section.

- e. fPrior to the STB meeting, ADOT Right of Way Titles will provide copies of resolution plats and/or legal description and FHWA concurrence to FHWA, the affected FD, ADOT District Engineer, and ADOT Right of Way Project Management Section for review.
- f. Upon approval by the STB, the Resolution of Disposal stating "Area of right of way has been removed from the State Transportation System" will be recorded in the appropriate County, thereby becoming effective. A copy of the recorded resolution will be provided by ADOT Right Way Titles Section to FHWA and the affected FS, ADOT District Engineer, and ADOT Right of Way Sections.
- g. The USFS will notify FHWA in writing, with copy to ADOT that the appropriation no longer exists.

**GUIDELINES** 

# APPENDIX G: SECTION 106 PROCESS ON FOREST SERVICE LANDS

# Section 106 Coordination Guidelines

- 1. ADOT, FHWA, and FS will be consulting parties for implementation of Section 106.
- 2. ADOT, FHWA, and FS will be signatories on Section 106 Memoranda of Agreement and Programmatic Agreements.
- 3. ADOT will ensure that contractors obtain necessary cultural resource permits from FS for work on National Forest System lands.
- 4. The Section 106 lead will assure that ADOT, FHWA, and FS will be given the opportunity to provide input and comments on the following documents, within the timeframes specified in the project Section 106 Process:
  - Draft Section 106 agreements
  - Draft contract scopes of work.
  - Draft testing and data recovery plans.
  - Draft reports, including site forms.
  - Draft determinations of eligibility and effect.
- 5. If there are differences of opinion among ADOT, FHWA, and FS regarding site eligibility or determinations of effect, the Section 106 lead will consult with the parties to resolve the issue. If the issue cannot be resolved, FHWA, or FS if lead, will forward the comments of the objecting party(ies) to the SHPO along with consultation documentation and determinations and will follow the applicable procedures in 36 CFR 800.
- 6. ADOT, FHWA, and FS will coordinate on the review of technical proposals for complex projects.
- 7. ADOT, FHWA, and FS shall be invited to participate in all pre-work meetings, on-site meetings, and field inspections with archaeological contractors.
- 8. ADOT, FHWA, and FS shall be invited to participate in all meetings and fieldtrips with tribes regarding Section 106.
- 9. ADOT will ensure that FS will be notified immediately regarding the discovery of human remains.
- 10. ADOT, FHWA, and FS will be copied on all SHPO, Advisory Council, and tribal correspondence.

# Consideration of Historic Properties

# Goals

Transportation projects proposed by FHWA and ADOT require investigations to locate, document, evaluate, assess effects on, and avoid or mitigate adverse impacts to historic properties. With respect to historic properties on FS lands, the goals of managing these properties are:

- · To protect historic properties.
- To recover and preserve significant information about those properties which cannot be protected.
- To fully cooperate and coordinate with FHWA and ADOT in managing these properties throughout the planning, design, construction and maintenance processes.

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations, 36 CFR 800 "Protection of Historic Properties", became effective August 5, 2004.

# What Are Historic Properties?

**Historic properties** refers to archaeological sites, historic structures, objects, and districts, which are typically 50 or more years old that meet the criteria of significance established by the *National Register of Historic Places* and include the following categories:

- Archaeological sites represent the locations of prehistoric or historic occupations or activities.
   They may be evinced by a small scatter of chipped stone flakes or by the extensive ruins of a Hohokam settlement or a historic period fort.
- Historic structures may include bridges, residences, commercial buildings, objects, historic roadways, causeways or constructed features such as retaining walls, culverts, etc.
- Historic objects include items that are relatively small in scale or that are primarily artistic in nature. Examples include monuments, boundary markers, sculptures, etc.
- Historic districts are groups of associated buildings that retain integrity as a whole. Examples of historic districts include the commercial center of a small town or a residential neighborhood.
- Cemeteries and burial places.
- Rural historic landscapes are geographic areas that were modified by human activity and that
  possess a significant concentration, linkage, or continuity of areas of land use, vegetation,
  buildings and structures, roads and waterways, and natural features. Rural historic landscapes
  commonly reflect the day-to-day occupational activities of people engaged in traditional work such
  as farming or mining.
- Traditional cultural properties are properties eligible for inclusion in the National Register that
  are associated with cultural practices or beliefs of a living community. These practices or beliefs
  must be rooted in that community's history and be important in maintaining the continuing cultural
  identity of the community. Examples include a locality used by generations of an Indian tribe for
  ceremonies or traditional gathering activities, as well as an ethnic neighborhood that reflects the
  cultural values and traditions of its inhabitants through architectural details, organization of space,
  and activities.

# The Section 106 Process

The 36 CFR 800 regulations recommend commencing the Section 106 review process at the earliest possible stage of project planning so that a broad range of protection and treatment alternatives may be considered. The review process consists of five steps:

- 1. Initiate the Section 106 Process by Identifying Consulting Parties.
- 2. Identify Historic Properties within the Area of Potential Effect.
- 3. Evaluate the Eligibility of Identified Properties for the National Register of Historic Places.
- 4. Assess Effects on National Register Listed or Eligible Properties.
- 5. Resolve Adverse Effects.

During the Section 106 process, in consultation with the State Historic Preservation Officer (SHPO) and sometimes the Advisory Council on Historic Preservation, decisions are made about how listed or eligible properties will be protected or how unavoidable effects will be minimized or mitigated. These decisions may include:

- Avoidance of the property.
- Limiting the size or scope of the undertaking to reduce the effect on listed or eligible properties. Since many archaeological sites are relatively small in size, it may be possible to avoid a site by reducing the size of the proposed undertaking in the vicinity of the affected resource.
- Modification of the undertaking through redesign, reorientation or other similar actions. For example, a highway alignment may be bifurcated in order to avoid a significant property.
- Repair, rehabilitation or restoration of an affected property. Although typically associated with historic structures, this mitigation measure may be applicable in the case of some historic archaeological sites that contain architectural features.
- Protection of archaeological deposits by filling over buried archaeological sites.
- Restriction of ground-disturbing activities to depths less than the undisturbed zone of significant archaeological sites.

- Monitoring of ground disturbing activities to record significant archaeological remains if they are encountered. This technique is particularly useful if anticipated ground disturbance is limited or where excavation prior to construction is not feasible.
- Data recovery. If the avoidance and minimization alternatives described above are not feasible, then data recovery prior to disturbance or demolition may be warranted.

# Section 106 Implementation for Federal-Aid Highway Projects 1. Agency Roles:

The identification and protection of historic properties is the joint responsibility of FHWA, ADOT and FS:

- FHWA funds, oversees, and is ultimately responsible for implementing Federally Funded Transportation Projects. By statute, FHWA is the lead Federal Agency for Section 106 compliance. FHWA customarily designates this responsibility to ADOT, but may also designate the FS to be the lead agency for Section 106 on certain projects.
- ADOT, acting as FHWA's agent, is typically charged with implementing the planning, design, and construction of these projects, including historic property considerations. As FHWA's designee, ADOT will prepare all Section 106 agreements, "consultation letters", eligibility and effect determinations, etc., for signing by the FHWA representative. ADOT also typically becomes the agency that maintains the constructed highway.
- The FS manages the National Forest lands traversed by Federal-Aid highways and manages historic properties until lands are appropriated by FHWA. After an easement has been secured by FHWA, the FS continues to have an interest in cultural resources within the easement in anticipation of future maintenance activities and future relinquishment of the easement by ADOT. Finally the FS continues to have protection responsibilities under the Archaeological Resources Protection Act (ARPA) and the Native American Graves Protection and Repatriation Act (NAGPRA).
  - The FS, if designated by FHWA as the lead agency for Section 106, will prepare and sign Section 106 documents and determinations, in consultation with FHWA and ADOT.

# 2. Section 106 Consultation Schedule:

The following Section 106 consultation schedule will be utilized for Federal-Aid highway projects on FS lands. The schedule is based on the ADOT Project Development Process outlined in Chapter 2.

# A. Project Scoping:

The Section 106 consultation process will be completed during the ADOT Project Scoping Phase unless otherwise agreed to by all parties (FHWA, ADOT, FS). The nature and distribution of historic properties will be analyzed, and the effects of the construction of each proposed highway alignment will be summarized and disclosed in the NEPA process. This consultation process will require one of the following:

- 1. Completion of inventory, evaluation, effect determinations, and resolution of adverse effects, if present, in accordance with 36 CFR 800.3 through 36 CFR 800.7.
- For more complex projects, execution of a Memorandum of Agreement or Programmatic Agreement outlining how these activities and determinations will be completed as project planning proceeds.

# B. Project Management (Design Phase)

If not completed during the Scoping/NEPA phase, the project team will plan, implement, and complete the inventory and evaluation of historic properties as specified in the Project Section 106 Process and Section consultation conditions or agreements. To the extent possible, the following milestones will be incorporated into the Project Section 106 Process:

Stage I (15% Plans)
 Initiation of the Section 106 process by development of Executive Summary and Draft Project Section 106 process documentation (see below).

- 2. Stage II (30% Plans)
  - Completion of survey and evaluation of historic properties.
- 3. Stage III (60% Plans)
  - Data recovery plans completed and implemented if possible. At this point, the Section 106 and project schedules will be reviewed and adjusted if necessary.
- 4. Stage IV (95% Plans)
  Final data recovery if not completed during the Stage III phase.

# C. Project Management (Construction Phase)

The project team will implement Section 106 requirements, such as monitoring, fencing, and erosion control measures, specified in the Project Section 106 Process and Section 106 consultation conditions or agreements. ADOT, FHWA, and FS will jointly review any problems identified during monitoring and agree on corrective measures that should be taken. ADOT, FHWA, and FS will receive copies of all monitoring and inspection reports.

FHWA, ADOT, and FS will coordinate regarding Section 106 responsibilities for new project-related activities or unanticipated project modifications that involve lands outside the project right-of-way.

# D. Project Management (Maintenance Phase)

See Chapter 11.

# 3. Process for Developing Section 106 Consultation Schedule:

In order to develop a realistic Section 106 consultation schedule to which all parties can agree, the following process is suggested:

# A. Executive Summary

As early as possible in the Project Scoping Phase, ADOT will prepare a general summary of the proposed highway project to include:

- 1. Project funding sources and amounts.
- 2. Project goals and preliminary design information.
- 3. Map of project area.
- 4. Map of project area showing agency (both ADOT and FS) jurisdictions.
- 5. Relevant project details
- 6. Project schedule.

# B. Draft Project Section 106 Process

In addition to this Executive Summary, ADOT will prepare for review a Draft Section 106 Process outlining the Section 106 objectives for the project and the proposed methods for realizing these objectives. The Draft will include:

- 1. Summary of personnel and agencies:
  - a. Highway project team members (including private consultants) and descriptions of their responsibilities as they relate to Section 106 issues. This will include FS, for responsibilities related to cultural resource permits and NAGPRA and for Section 106 lead if applicable. Responsibilities for tribal consultation and fieldwork inspection will also be identified.
  - b. Key stakeholders and their Section 106 needs and interests in the project.
  - c. SHPO and other Consulting Parties as defined by Section 106. This will include FHWA, ADOT, and FS as well as tribes that might attach traditional cultural or religious significance to historic properties.
  - d. Others who will receive Section 106 submittals.
  - e. Interaction chart illustrating project team members, stakeholders and consulting parties.

- 2. Draft scope of work regarding Section 106 issues to include:
  - a. A detailed, project-specific list of submittals.
  - b. The required activities associated with those submittals.
  - c. Member of project team responsible for each submittal or activity.
- 3. Draft Communications Plan/Chart to include:
  - a. Project team members, stakeholders and consulting parties who will receive information.
  - b. The nature of that information.
  - c. How they will receive that information.
- 4. Draft project schedule:
  - a. Estimated time to complete each activity.
  - b. Estimated completion dates for each submittal.
  - c. Maximum number of days allowable for agency reviews of submittals.
  - d. Proposed funding and collection agreement needs.

NOTE: In order to provide completion dates, the Draft 106 Process will define a project-specific agency review time. For relatively simple projects, the agency review time will be set at 30 calendar days. For more complex projects, a longer agency review time may be defined, but will be no more than 45 calendar days. A maximum of 10 working days will be allowed for review of subsequent draft submittals. If additional time is desired, a request must be made to the ADOT Section 106 compliance representative prior to the lapse of allowable time. All parties (FHWA, ADOT and FS) must agree to both an extension and a definite completion date. If time has lapsed without submittal of review comments and without an agreement of extension, all parties shall assume that there are no comments on the document and the process shall proceed.

# C. Agency Review of Proposed Project

- 1. ADOT will forward the Executive Summary and Draft Project Section 106 Process to:
  - a) District Ranger
  - b) Forest Archeologist or designee
  - c) FHWA staff.
  - d) ADOT staff.
  - e) Others as required.
- 2. In response to the Draft Process, recipients may respond as follows:
  - a) Concur with the proposed Draft Process by signing and returning the Draft to ADOT. If all parties concur with the proposed Draft Process, a Partnering Meeting will not be required.
  - b) Notify ADOT within 30 working days, unless otherwise agreed to by FHWA, ADOT and FS, that further discussion regarding the Draft Process is needed in order to jointly review the project and agree on the draft scope of work, submittals, proposed time frame and other aspects of the Project Section 106 Process. If any recipient requests further review and discussion, ADOT will organize a Partnering Meeting.

If ADOT receives no comments to the Draft Section 106 Process within the 30- day, or otherwise agreed upon, review period, it will assume that the recipient approves the Draft.

# D. Section 106 Partnering Meeting (if necessary)

For small projects, it might be possible to convene a partnering meeting by phone or other means. For complex projects, it is suggested that these meetings be directly attended and facilitated.

Prior to the Partnering Meeting, all recipients should review the Executive Summary and Draft Section 106 Process described in Step 1.

Partnering Meetings will follow ADOT guidelines for partnering meetings. All parties must agree that they will negotiate in good faith and that the meeting results will be the established project process. All parties will agree to follow the established process. Meeting minutes must be taken. The goal of the meeting should be the review of the Draft Process described in Step1. Special attention should be paid to:

- 1. Draft scope of work relevant to Section 106 issues.
- 2. Consultants' scopes of work (if applicable).
- 3. Anticipated project submittals.
- 4. Proposed project schedule/timeline and agency review times. If the draft schedule is not possible to meet based on the estimated duration of anticipated activities, the partners should be prepared to:
  - Suggest adjustments to the submittal deadline and justify changes to the proposed schedule.
  - b) If adjustments are not feasible, identify additional resources that could be utilized in order to meet the schedule, and estimate the additional costs associated with those additional resources.
  - If neither a nor b (above) appear feasible, explore alternative strategies in consultation with SHPO.

Prior to implementation, the ADOT Project Manager and the ADOT District Representative must approve any suggested changes that would impact the scope, schedule or budget of a proposed project.

#### 5. FHWA decision

- Upon agreement of all parties to the Project Section 106 Process, FHWA will announce their decision on which agency will serve as their designee or lead for the Section 106 process.
- 6. Upon agreement of all parties to the Project Section 106 process, the agency designated by FHWA as Section 106 lead, will finalize the Section 106 Plan and provide copies to all parties.
- 7. Escalation
  - If the partners cannot agree upon an acceptable Project Section 106 Process, the matter will be escalated (see below).

# E. Section 106 Escalation Process (if necessary)

If necessary, partners will escalate the Draft Project Section 106 Process as follows:

FHWA	ADOT	USFS
Environmental Program Manager	HPT Team Coordinator	Forest Archaeologist
Operations Team Leader	EPG Group Manager	District Ranger
Assistant Division Leader	Director, Office of the Environment	Forest Supervisor
Division Leader	State Engineer	Deputy Regional Forester
	Office of the Director	Regional Forester



# APPENDIX H: TYPICAL BLASTING PLAN CONTENT

A Typical Blasting Plan consists of:

- names and experience of blasting supervisors
- · methods for and locations of explosives transportation, storage and use
- traffic control and other public safety precautions
- general methods and approach to blasting, which account for the full range of geologic settings and physical conditions present on the project
- method and equipment for pre-blast survey, environmental monitoring, and anticipated peak particle velocity levels
- · equipment intended to be used in or support of blasting operations
- method of containment to prevent rock material from escaping the construction limits, and contingency measures for unanticipated rock fall.

Most slopes will need additional, site specific, blasting designs, as one blasting plan does not fit every slope on the project. The blasting pattern plan for specific cuts should include the following features: the drill hole grid, explosive types, sonic velocity and seismic velocity of the rock, and delays in timing.

On some projects, the contractor is also required to submit specific blasting plans prior to proceeding with each blast. Following is an outline of contents of a typical Specific Blasting Plan:

- station limits of proposed shot
- scale drawings showing plan and section views of all variations of the proposed drill pattern, including clearing limits, free face, burden, blast hole spacing, drill hole location, subdrill depths, lift height, blast hole diameters, and blast hole angles
- loading diagram showing powder factor, type and amount of explosives, primers, initiators, and locations and depths of stemming for all substantial variations within the pattern
- initiation method and sequence of blast holes, including delay times and delay system
- manufacturer's data sheets for all explosives, primers, and initiators to be employed
- fly rock control measures
- estimated quantities of cubic yards of rock in-place and linear feet of both production and controlled blast drill hole
- location and attitude of significant fracturing, rock type changes, faulting, and special circumstances to be accounted for in the plan
- identification of environmental monitoring method, equipment and location.

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# APPENDIX I: COMPARISON OF PERMIT PROCESSES FOR MATERIAL SITES

TOPIC	FOREST SERVICE	BUREAU OF LAND MANAGEMENT
Regulations	36 CFR 228, Subpart A (locatable minerals)	CFR 3802 (Wilderness Study Areas - only two in Arizona)
		43 CFR 3809 (All other Public Land including Designated Wilderness Areas in conjunction with Wilderness Regulations) also 43 CFR 3809 standards apply to Stock Raising Homestead Lands
		43 CFR 3715 All Public Lands where BLM is the managing agency for both the surface and mineral estates.
Casual Use	N/A	Casual use definition applicable only to 43 CFR 3809. For activities below regulatory threshold (e.g., sampling with a rock hammer or short term tent camping less than15 days), no Notice or Plan required. No definition of casual use under 43 CFR 3802. Occupancies over 15 days in any 90-day period require concurrence under 43 CFR 3715 regardless of surface disturbing activites.
Notice	All activities that might cause surface disturbance require a Notice of Intent to Operate (36 CFR 228.4(a)). Such notice of intent shall be submitted to the District Ranger having jurisdiction over the area in which the operations will be conducted. If the District Ranger determines that such operations will likely cause significant disturbance of surface resources, the operator must submit a proposed Plan of Operations.	Five acres or less total disturbance on lands outside Wilderness, Wild-Scenic Rivers, Areas of Critical Environmental Concern, etc. No Notices allowed under 43 CFR 3802. Contents of a Notice described at 43 CFR 3715.3-2 and 43 CFR 3809.1-3 and 43 CFR 3715 for occupancies. Review time frame for notices is 15 days. Notices that incorporate 43 CFR 3715 occupancies are not subject to this time frame for concurrence of the occupancy.
Plan	If proposed operations will likely cause significant disturbance of surface resources, a Plan of Operations must be submitted (36 CFR 228.4 (a)). Contents of the Plan of Operations are described at 36 CFR 228.4 (c).  A plan of operations can be submitted	More than five acres total surface disturbance on lands subject to 43 CFR 3809. Contents of a Plan described at 43 CFR 3715.3-2 and 43 CFR 33802.1-4 and 43 CFR 3809.1-4. All activities that occur in a Wilderness, Wilderness-Study Area, Wild-and-Scenic River, etc. need a Plan of Operation regardless of their

	initially and independently of a notice if significant disturbance of surface resources is anticipated by the proponent.	size or type.
Bonding	Any operator who conducts operations under an approved plan of operations will be required to furnish a bond in an amount specified by the authorized officer. In calculating bonds, the authorized officer shall consider the estimated cost of stabilizing, rehabilitating and reclaiming areas disturbed by the operations.	Not required for notices. Bond amounts for plans of operation at 100 percent of the cost to perform reclamation by BLM or a third party contractor.
Closure and Bond Release	The operator and agency should ensure that all requirements of the approved Plan of Operation are met and that the environmental effects of the operations are as predicted in the NEPA document. When all or part of reclamation has been completed in accordance with the approved plan, the authorized officer may release that portion of the reclamation bond which covers the work, providing it meets standards established in the Plan of Operations.	The operator and agency should ensure that all requirements of the notice or approved plan are met. When all of these conditions are met, the authorized officer will release the bond.
NEPA	Forest Service mining regulations contain guidelines for environmental protection, (36 CFR 228.8) and require the Forest Service to conduct an analysis that meets NEPA requirements. This analysis is the basis upon which the agency requires changes or modifications to the plan of operations if needed and serves as a basis for development of required mitigation measures.	3809 regulations require that at a minimum, an Environmental Assessment (EA) be prepared for all plans of operation to determine if an EIS is required. No NEPA review required for casual use or Notice level operations. Unless those operations involve occupancy as defined by 43 CFR 3715. Any operation involving occupancy under 43 CFR 3715 requires NEPA analysis. Most occupancies at the casual use and notice level in Arizona are covered by a programmatic EA. Operations disturbing more than 640 acres always require an EIS.
Non- Compliance	Operator's failure to comply with 36 CFR 228 regulations or approved operating plans, which results in surface resource damage, will result in being served a Notice of Non-Compliance. Continued noncompliance can result in court actions. In cases where unnecessary or unreasonable damage is occurring	Operator failing to comply with 43 CFR 3715 or 43 CFR 3809 may be served a Notice of Non-Compliance. Operators with a record of non-compliance must file a plan of operations and post bonds for 100 percent of reclamation costs even if their activities affect 5 acres or less.

	and where reasonable attempts fail to obtain an operating plan or to secure	State Bonds cannot be used to meet this requirement. Lawsuits in Federal
	compliance with an approved operating plan, the operator may be cited for criminal violation (36 CFR 261 or 262).	District Court are needed for operators that ignore a BLM order that is upheld by IBLA. 3715 provides additional recourse to criminal penalties.
Residential Occupancy	A claimant to an unpatented mining claim is entitled to uses of the surface that are reasonably necessary to the accomplishment of a bona fide prospecting, exploration, mining and processing of locatable minerals. In order for structures to be authorized under the U.S. mining laws and regulations requiring the management of surface resources, two conditions must be met. First, the structure must be reasonably necessary for use in prospecting, mining or processing of locatable mineral resources and, second, the structure must be covered by an approved operating plan. Occupancy is generally not authorized except in special cases.	Can occur at casual use level, under a Notice or a Plan when requirements of 43 CFR 3715 are met. Generally no occupancy authorized except in cases where production is occurring continuously and/or there is a need to protect the public, equipment or valuable minerals from accidents, theft or loss.
Resolution of Unauthorized	Upon a finding that the occupancy or use is not reasonably incident to	Upon a finding that the occupancy or use is not reasonably incident to
Use and Occupancy.	mining, or approved in an approved plan of operations, willing cooperation in resolving the trespass will be sought. A notice of noncompliance and/or legal remedies will be utilized as needed.	mining, four avenues for resolution of trespass:  1) Temporary Suspension Order 2) Cessation Order 3) Notice of Non-Compliance 4) Authorization by other means.
Appeals	Related NEPA decisions are subject to appeal in accordance with 36 CFR 215 regulations for those actions on Forest Service lands. Decisions affecting authorization for mining activities are subject to appeal by the proponent under 36 CFR 251 regulations. The proponent may appeal under 251 or 215, but not both.  Matters such as mining claim validity are heard before the Department of	Appeal filed with the decision issuing office. The appeal by an operator is reviewed by the State Director under 43 CFR 3809.4. Decisions of the State Director appealed to the Interior Board of Land Appeals (43 CFR Part 4). Where questions of fact need to be resolved in 3809 cases, there is a hearing before Administrative Law Judge, with appeal of adverse decision to the IBLA. 3802 appeals go directly to
	the Interior, Office of Hearings and Appeals.	IBLA.  3715 Notices of Non-Compliance, Suspension Orders and Cessation Orders are appealed directly to IBLA.

		Appeals filed by a third party for a 3809 action are sent directly to IBLA.
Undue or Unnecessary Degradation	N/A	Surface disturbance greater than what would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources outside the area of operations. Failure to initiate and complete reasonable mitigation measures, including reclamation of disturbed areas or creation of a nuisance may constitute unnecessary or undue degradation. Failure to comply with applicable environmental protection statutes and regulations there under will constitute unnecessary or undue degradation.

# **APPENDIX J: SIGNING**

## Goals

The purposes of this section are to

- Promote highway safety and efficiency by providing for the orderly movement of traffic on State highways crossing National Forest land.
- Describe procedures, responsibilities and authorities for signing State highways crossing National Forest land.

# **ADOT/Forest Service Sign Planning**

Routine Forest-related guide signing and controlled burning signing should be requested in writing by the FS Forest Sign Coordinator and submitted to the ADOT Regional Traffic Engineer for approval. The Regional Traffic Engineer and Forest Sign Coordinator will jointly review the request before a final determination is made. Requests for signing on freeways that cross FS lands should be submitted to the State Traffic Engineer, Traffic Engineering Section, for review.

Emergency incident signing is described below. Signing for planned burns should be coordinated through the ADOT Regional Traffic Engineer.

# Forest Service Sign Guidelines

This section addresses the most frequently occurring signing issues on FS lands and is not intended to provide explicit guidance on all possible signing matters that may arise. The FS Sign Coordinator and ADOT Regional Traffic Engineer and/or State Traffic Engineer should jointly resolve signing issues beyond this scope through "Partnering" concepts.

National Forests generate volumes of traffic sufficient to justify informational and guide signing to facilitate the safe and orderly movement of traffic on and off of highways to recreational destinations. In addition to signing for recreational facilities and scenic attractions, the FS requires Forest-specific signing to advise of temporary operations, fire suppression activities and other incidents and to safeguard Forest resources.

All signing should be installed and located in accordance with the MUTCD and Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, American Association of State Highway and Transportation Officials, 11285, and the 11286,11287 and 11288 interim revisions. Signs within the recovery area (clear zone) must be breakaway design. Any non-breakaway signs should be located outside the recovery area. Where not possible, signs should be shielded from out-of-control vehicles in conformance with Roadside Design Guide, American Association of State Highway and Transportation Officials, 2002.

Forest-specific signing as well as other Forest-related informational, guide and miscellaneous signing may be considered for installation when:

- Signing will not interfere with warning and regulatory signs and is consistent with other guide signs.
- Signing will not present a significant obstacle to errant vehicles.
- The Forest facility or attraction is located immediately adjacent to the State highway or on a Type 2 Road that is traversable during normal weather conditions by prudent drivers in passenger cars.

# Sign Design on Forest Service Lands Informational Signing

Guide and informational signing furnished by ADOT for Forest facilities and attractions should be rectangular in shape and normally have a white legend and border on a brown background Figure J.1. However, when a



Figure J.1



Figure J.2

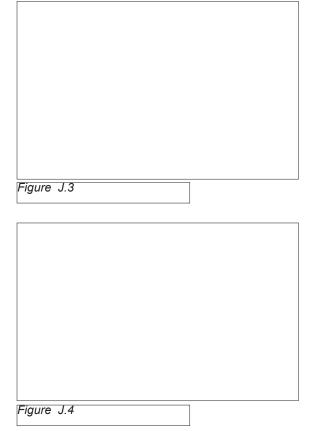


Figure J.5

Forest-related destination is displayed on the same sign with a non-Forest related destination, the sign should have a green background (see Figure J.2).

Signing should not be installed on a State highway until the FS or local agency, if applicable, installs the appropriate follow-up signing for the direction of traffic to the facility or attraction.

Where a Forest facility or attraction that justifies signing is the only destination along a Type 2 Road or immediately adjacent to the State highway, two signs should normally be installed for each direction of travel: one in advance of the intersection and the other at the intersection. The installation at the intersection should have an arrow pointing in the direction of the facility or attraction and, where applicable, should indicate the distance (see Figure J.3).

Where the Forest facility is one of two or more destinations along a local access road, the signing for the Forest facility may be provided as an independent white on brown supplemental guide sign or the Forest destination may be incorporated into the legend display of the white on green guide signs provided for the non-Forest destinations (see Figure J.4). Where non-Forest related motorist services signing (Gas, Food, Lodging, Camping, Telephone, Tourist Information, Hospital, etc.) is incorporated into guide signing containing Forest destinations, the non-Forest related motorist services signing should be white on blue and should be installed beneath the guide sign located at the intersection (see Figure J.5).

# **Boundary Signs**

The National Forest logo should be used on Forest boundary signs, except on "Entering Private Land" signs, and may be approved for use on Forest recreation area boundary signs and Forest related site-specific guide signs (see Figure J.6).

#### Boundary Signing Criteria:

Signing on freeways should be provided at or near major National Forest boundaries and should be furnished, installed and maintained by ADOT and should match the specifications in the EM-7100-15, Sign and Poster Guidelines for the Forest Service. These signs should display the Forest name and the National Forest logo. The sign at the leaving location should also display "LEAVING." Use a

- Forest Entrance sign (EM-7100-15) on Federal and State highways. The sign installation shall include the Forest Service shield and the USDA credit line Figure J.7.
- Signing on conventional State highways should be provided at the first acceptable site, consistent with highway safety considerations at or inside the National Forest Boundary. These signs should be furnished, installed and maintained by FS, and conform to EM 7100-15 requirements. ADOT concurrence is required for these installations. The signs may display messages on both sides, where one side displays the National Forest entrance message and the opposite side displays the leaving message. The single sign arrangement is preferable to two separate signs, as roadside obstacles are reduced. (Figure J.8)
- "Leaving National Forest Land" and "Entering National Forest Land" signs may be provided on conventional State highways at interior private land boundaries where there is a significant tract of private land surrounded by National Forest. These signs are furnished, installed, and maintained by the FS with ADOT concurrence required. If the signs cannot be located within 50 feet of the actual boundary, they should not be installed. The signs should not normally be spaced closer than 1/4 mile apart.



In addition to Forest boundary signing, it is intended that the National Forest logo be used only for signs installed for significant Forest facilities and attractions, generally characterized by meeting the following criteria for quality of access and services:

- Primary access is provided over roads designed and maintained for prudent drivers in passenger cars with traffic controls present and obvious
- The facility/attraction should be used by at least 50 persons per day during the recreation season
- The facility/attraction should be located within 15 miles of the highway turnoff or exit ramp terminal.
- The facility/attraction should be maintained daily during the recreation season
- Forest facilities and attractions that generate 200,000 visitors per year may also have the National Forest logo incorporated into the sign message display Figure J.9.

#### **Recreation Area Signing**

Forest recreation area boundaries may be identified on conventional State highways at or near the location



Figure J.6



Figure J.7

Figure J.8		

Figure J.9

Figure J.10



Figure J.11



Figure J.12

where the recreation area boundary intersects the highway. When used, the signs should be installed with ADOT concurrence, and should be furnished, installed and maintained by FS. The signs typically display the Forest name, National Forest logo, FS shield and USDA plaque (see Figure J.10). These signs should conform to the family of shapes identified in the EM-7100-15.

Where a Forest recreation area is located on or is near an intersecting conventional State highway, the Forest recreation area may be signed on the intersected highway. The signs on the intersected highway should be furnished, installed and maintained by ADOT, and will display the Forest name, Forest recreation area name, and directional information (see Figure J.11). The National Forest logo may be used when the Forest recreation area is a significant traffic generator.

Federal recreation symbols (recreational and cultural interest area symbol signs) describing up to four pertinent activities in the Forest facility may be incorporated into the face of Forest-specific guide and supplemental guide signs or installed underneath these types of signs (see Figure J.12). Where appropriate, the symbols may be provided in an independent installation. Where the symbols are considered for a Forest destination and displayed on a white on green guide sign, the symbols should be installed underneath the guide sign (see Figure J.13). When two advance signs are used, either white on brown or white on green, the symbols should be installed on the face of or underneath the sign located at the intersection (see Figure J.14).

#### Site Signing

Site signing is normal recreational and supplemental guide signing, which directs travelers to specific Forest sites such as camping facilities, trailheads, etc. Only those sites where primary access is provided over roads designed and maintained for prudent drivers in passenger cars should be signed. Principal destinations along a local route should be signed at the intersection and at an appropriate distance in advance of the intersection (MUTCD Table 2C-4).

Where the Forest facility is one of two or more destinations along a local access road, the signing for the Forest facility may be provided as an independent white on brown supplemental guide sign or the Forest destination may be incorporated into the legend display of the white on green guide signs provided for the non-Forest destinations.

Figure J.13

## Forest Service Approaches to State Highways

# Administrative Office (Ranger Station) Signing

the intersection as determined by the MUTCD in relation to the highway speed limit (MUTCD Table 2C-4). These signs should be white on brown and should display the administrative office name, the name of the National Forest, the National Forest logo and appropriate directional information (see Figure J.16).

Where Forest administrative offices are located on a local access road, follow-up signs to the facility should normally be installed on the local access road by the agency having jurisdiction of the road, before the guide signs are installed on the highway. Where normal white on green guide signs are in place on the highway for other destinations along a local access road, signing for Forest administrative offices should normally be a single white on brown supplemental guide sign for each direction of travel (see Figure J.17).

#### **Interpretive Signing**

Interpretive signing is a form of FS information signing that provides information to Forest visitors on natural and cultural interests (Figure J.18), historical features and management practices on National Forest land. These signs may be considered for use in rest areas, scenic vistas, pullouts and other non-highway locations. When used, they should be oriented in such

(Gas, Food, Lodging, Camping, Telephone, Tourist Information and Hospital) is incorporated into guide signing containing Forest destinations, the non-Forest related motorist services signing should be white on blue and should be installed beneath the guide sign located at the intersection (see Figure J.15).	
Forest Service Approaches to State Highways ADOT will allow installation under permit on their highway system, and will not be involved in signing on cross roads to their highway system.	Figure J.14
The highway edge stripe should be broken at approaches for those roads intended for use by prudent drivers in passenger cars. The stripe should be continued through approaches for other Forest roads.	
Administrative Office (Ranger Station) Signing Signs directing travelers to National Forest administrative offices may be installed on conventional State highways when the facility is located within 5 miles of the highway intersection. Two signs will normally be provided for each direction of travel: the	Figure J.15
first should be installed at the intersection; the second shothe intersection as determined by the MUTCD in relation	build be installed at an appropriate distance from

Figure J.16		

Figure J.17

a way that the faces of the signs are not visible from the highway. These signs are furnished, installed and maintained by FS. The National Forest logo and the Forest name may be incorporated into the sign message display. These signs should conform to the Sign and Poster Guidelines for the Forest Service.



Figure J.18

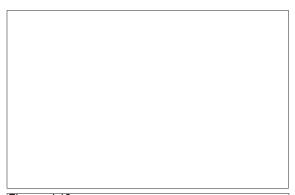


Figure J.19



Figure J.20

Wildlife viewing areas may be signed if they are identified in the Arizona Wildlife Viewing Guide, meet MUTCD Section 2H requirements, and meet the following criteria (see Figure J.19):

The wildlife viewing area or trailhead to the area is located:

- In a pullout immediately adjacent to the highway.
   On a local access road designed and maintained for prudent drivers in passenger cars.
- Within one 1 mile of the highway intersection.
   Where the wildlife viewing area is the only identified attraction at a highway intersection or is the only destination along a local access road, two signs should be provided for each direction of highway travel:
- At the intersection.
- In advance of the intersection.
- Appropriate arrows/distance slats should be provided with these signs.
   Where the local access road or highway intersection has other destinations or attractions, the Wildlife Viewing Area signs may be installed:
- At one location as an independent supplemental guide sign.
- At the locations of and underneath the existing destination signs.
- Incorporated into the display of other existing recreational symbol signs.

Where follow-up signs are needed along a local access road, the follow-up signs should normally be installed by the agency with jurisdiction on the local road prior to installing the signs on the highway.

# Adopt-a-Highway Program Signing

Adopt-a-Highway signing is an ADOT program whereby the public assists the State in roadside litter maintenance. Approved groups are assigned a section of highway for litter control and maintenance. Signs identifying the Program and the volunteer group are erected at the beginning limits of the assigned area by ADOT (see Figure J.20).

This program is applicable to and signing may be installed on State highways traversing National Forest land.

# Parkways, Historic and Scenic Roadways and Scenic Byways

Conventional State highways that traverse National Forest land and that are designated as Parkways or Scenic and Historic Roadways, as provided in ARS 41-512 through ARS 41-518; or Scenic Byways, as promulgated by FS, FHWA and Bureau of Land Management, should be signed accordingly. Signing for highways designated as Parkways or Scenic and Historic Roadways should be installed and maintained by ADOT. Signing for highways designated as Scenic Byway should be installed and maintained by FS. These signs should be located at the beginning and ending limits of the designated roadway and should be repeated at intervals of at least 5 miles (see Figure J.21).



Figure J.21

When a route is both an ADOT Parkway or

Scenic and Historic Roadway and a National Forest Scenic Byway, then both signs will be used at the beginning of the route (portal) and only the ADOT sign will be used as the reassurance sign through the route.

Where a designated Forest road intersects a conventional State highway, signs should be installed by ADOT that identify the intersecting roadway as having such designation. Signing on the Forest road beyond the easement lines of the State highway should be installed and maintained by the FS. These signs should also be installed at the beginning and ending limits of the designated roadway and repeated at intervals of at least 5 miles.

# **Forest Road Numbers**

Route number signing for FS roads should be installed on conventional State highways at intersections with Forest roads on which the FS desires to "encourage" use by passenger cars. Route markers may also be installed for intersections with other Forest roads on which the FS "accepts" passenger car use. Route markers should not be installed for Forest roads on which passenger car use is discouraged or prohibited.

When the FS has installed "Forest Route Markers," M1-7 (see Figure J.22), on an intersecting road, ADOT will then furnish, install, and maintain the Forest Route Markers on the highway. Forest Route Markers indicate a main Forest access road.

When the FS has installed "Horizontal Route Markers," (see Figure J.23) EM 7100-15 FM-1, on an intersecting road, the FS will furnish the markers; ADOT will install and maintain them. Horizontal Route Markers may be installed on the highway with ADOT concurrence. These markers indicate a Forest road suitable for passenger vehicles.



Figure J.22

# **Typical Signing Applications**

Following are typical signing applications and examples:

 Fire Prevention Checkpoint signing should be installed in accordance with Figure 75, Fire Prevention Information Stations. Guide signing on State highways at intersections with Forest roads should be installed in accordance with Figure 76, Typical Guide Signing on State highways at significant FS



FM1-8a Figure J.23

roads.

- Truck Crossing Signs on FS timber haul roads should be installed in accordance with Figure 78,
   Typical Truck Crossing.
- Signing for Control Burn Areas should be installed in accordance with Figure 79, Typical Application of Signing for Control Burn Areas.
- Figure 80 illustrates the typical application of Forest related signing.

# Forest Service Operational and Emergency Signing

# **Temporary Signing**

FS should furnish, install and maintain all temporary warning, regulatory and guide signs; other traffic control devices (such as delineators, barricades, temporary pavement markings and temporary barriers); and other appropriate devices which are necessary to warn and control traffic because of construction and maintenance activities, or other temporary operations sponsored by FS or its contractors such as truck crossings at timber haul roads or control burn areas. Signs such as Truck Crossing Warning signs that are located in standard signing position and will remain in effect for substantial periods of time should be furnished, installed and maintained by ADOT. All such traffic control devices and their applications must be in conformance with the MUTCD and should not interfere with normal warning, regulatory and guide signs or present a significant obstacle to errant vehicles. The FS Forest Coordinator and the ADOT District Engineer and/or Regional Traffic Engineer should jointly determine specific locations for temporary signs.

# **Emergency Signing**

The same principles apply when FS wildfire suppression activities occur along or adjacent to a highway. Fire suppression is a response to an emergency. FS fire suppression and ADOT maintenance personnel must coordinate to identify the need for the installation of signs and devices as soon as possible. Often this means using signs and devices from the nearest ADOT maintenance yard. When ADOT incurs significant costs in making the signs and devices available, the ADOT Maintenance Supervisor should work with the Logistics Chief and Finance Chief assigned to the fire to obtain reimbursement. The signs and devices are chargeable to the fire suppression activity. All signs and traffic control devices necessary to warn highway traffic of smoke and fire suppression activity must be in conformance with MUTCD.

THE GREATEST HAZARD USUALLY OCCURS ON THE FIRST NIGHT OF A FIRE. Virtually all major wildfires in Arizona have escaped the FS' initial fire suppression attack and then made a major "run" during extreme burning conditions the first afternoon. Thousands of hectares have become involved in a few hours. It takes the FS 12 to 24 hours to mobilize a "team" to manage suppression of such a fire, and the team is usually not in place until the second day. In the chaotic first afternoon, with fire activity

overwhelming local resources, the consequences of approaching darkness often go overlooked. Activities that are plainly visible to motorists in daylight become invisible after dark. It is important for ADOT to work with the FS to identify such hazards and have the necessary signs, barricades, and flashers in place before darkness to both protect motorists from fire suppression activities and to protect fire fighters from motorists.

# Responsibility for Furnishing, Installing, and Maintaining Signing within the ADOT Easement on Forest Service Lands

Furnished, Installed and Maintained by:	ADOT	FS
Forest Boundary Signs on Freeways-USFS under permit from ADOT		X
Forest Boundary Signs on conventional State Highways		X
Entering and Leaving Forest Land on conventional State Highways (requires ADOT concurrence).		Х
Forest Service approaches to State Highways-UAFS under permit from ADOT		X
Direction Signs to FS Administrative Offices on conventional State Highways		X
Interpretive signing in rest areas, scenic vistas, pullouts and non-highway locations		X
Forest Service Route Markers M1-7 (when Forest has installed on intersecting road)	Χ	
Forest Service Horizontal Route Marker (when Forest has installed on intersecting road) Forest Service will furnish, ADOT will install and maintain.	X	X
Workzone Traffic Control for FS jobs.		X
Emergency Fire Suppression Signing - USFS under permit from ADOT		X

# **Additional Resources**

The following are references for traffic control:

- Manual on Uniform Traffic Control Devices for Streets and Highways, U.S. Department of Transportation Administration, (MUTCD), latest adopted edition.
- Highway Functional Classification Concepts, Criteria and Procedures, Transmittal 155, Volume 20, Appendix 12, U.S. Department of Transportation, FHWA, July, 11274.
- Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals,
   American Association of State Highway and Transportation Officials, 1985, and 1986, 1987, 1988
   Interim Revisions.
- Roadside Design Guide, American Association of State Highway and Transportation Officials, 2002.
- Sign and Poster Guidelines for the Forest Service, U.S. Department of Agriculture, Forest Service, EM-7100-15, latest edition.
- Incident Sign Installation Guide, 0551-2814-MTDC, July, 2005.

#### PROJECT REFERENCE FACT SHEET

### **Purpose**

It is imperative that the Arizona Department of Transportation (ADOT) process benefits ADOT and all project stakeholders by providing the most current project information available.

The development of the Project Reference began as a cooperative effort of the Arizona offices of the Bureau of Land Management, the Federal Highway Administration and ADOT in early 2001. ADOT management embraced the concept and encouraged the continuing development of this system. In 2005, the Project Reference Subgroup was established to refine what began in 2001 as a hardcopy "document *distribution* system." As a result of the efforts of this Subgroup, ADOT now has established an electronic, paperless Project Reference. This "document *availability* system" can be accessed directly through the ADOT Information Data Warehouse (AIDW). The Project Reference is "the way to do business" on all ADOT highway projects.

#### **Definition:**

The Project Reference is a document availability system designed to:

- 1. Provide ready access to key documents and information applicable to an ADOT project;
- 2. Ensure that timely information is available to ADOT personnel and project stakeholders throughout the life of the project;
- 3. Enhance project organization and teamwork;
- 4. Provide an historical file for an individual project.

### **Benefits:**

- The public benefits from better informed government staff with regard to highway projects.
- 2. The system makes the most current information available to all ADOT personnel and stakeholders in a timely manner.
- 3. Project documents are centrally located (in the AIDW) and easily accessible.
- 4. The system reduces delay, confusion, misunderstanding and conflict.
- 5. The system increases efficient use of time, contributes to clarity and understanding and engenders positive working relationships.
- 6. The system enhances the project team members' ability to successfully understand and contribute to the project.

## **Implementation Summary**

1. Creating and contributing to the Project Reference is a collective effort among the disciplines within ADOT and the project stakeholders. The system includes documents from all project phases ("cradle to grave"). These include Links to Planning and Long Range Plans, a Project Summary, Guiding Documents,

#### **GUIDELINES**

Environmental Documents, Design Documents, Ancillary Permits and Agreements, Construction Documents and a Post-Construction Punch List.

- 2. Project Reference electronic document compilation begins at the time an ADOT project tracking (TRACS) number is requested.
- 3. Prior to construction, the ADOT Project Manger is responsible for overseeing the Project Reference.
- 4. For projects where a Pre-Negotiation Partnering Meeting is held prior to beginning design, the ADOT Project Manager educates workshop participants about the Project Reference document availability system.
- 5. At the Design Kick-Off Partnering Workshop, the ADOT Project Manager educates the participants about the value and use of the Project Reference and the importance of making the most current information available in a timely manner. The ADOT Project Manager identifies the disciplines responsible for system updates and assures that discipline representatives have received the proper training to check documents into the AIDW. Project team members who wish to receive notification when new documents become available may indicate this on the workshop sign-in sheet or by a request to the ADOT Project Manager.
- 6. Where documents are provided by project stakeholders other than ADOT personnel, those stakeholders give their documents to the ADOT Project Manager who checks those documents into the Project Reference.
- 7. The ADOT Resident Engineer assumes responsibility for overseeing the Project Reference when the project moves from design to construction.
- 8. At the Construction Kick-Off Partnering Workshop, the ADOT Resident Engineer educates participants about the value and use of the Project Reference and the importance of having the most current information available in a timely manner. The ADOT Resident Engineer identifies additional disciplines responsible for system updates and assures that discipline representatives have received the proper training to check documents into the AIDW. Additional project team members who wish to receive notification when new documents become available may indicate this on the workshop sign-in sheet or by a request to the ADOT Resident Engineer.
- 9. During construction, where documents are provided by project stakeholders other than ADOT personnel, those stakeholders give their documents to the ADOT Resident Engineer who checks those documents into the Project Reference.
- 10. Upon completion of construction, the ADOT Resident Engineer creates the Post Construction Punch List. The ADOT District Maintenance Engineer assumes responsibility for overseeing the Project Reference, using the Post Construction Punch List and using the Project Reference as a resource.
- 11. Over time, the Project Reference remains as the historical project file for the document types it includes.

**NOTE:** Not all project-related documents will be available when the Project Reference is initiated. New documents will be added and some documents will change as the project progresses through the project phases, which each occur over a period of several years.

## APPENDIX L: NATIVE PLANT SALVAGE & REPLANTING EVALUATION GUIDELINES

Arizona vegetative zones include many rare and unusual plant species that may be found only in limited numbers, geographic areas and in some cases limited to the State. Native Plant Salvage and replanting on a project must be in conformance to the requirements of Arizona Native plant laws.

Mitigation requirements, project stipulations and impacts require during the design development that appropriate evaluation of project area vegetative cover be made using the following and other additional project specific criteria as appropriate in the evaluation for plant salvage and replanting within the highway right of way.

Plant salvage, nursery establishment and maintenance and replanting on the project under usual conditions should be limited to \$200,000 per mile not including a one or two year establishment period. Exceptions would be in cases where Saguaros, Barrels, Ocotillos and other primary or climax species such as Ironwood may require additional funding to accomplish the ADOT approved level of plant salvage and replanting.

Non Discretionary Evaluation Requirements:

- 1. Conformance to requirements of Arizona Native Plant Laws.
- 2. NEPA Decision Document requirement.
- 3. Highway safety would not be compromised.
- 4. Mitigation for 404 permit requirement.
- 5. Plants must be species that would be self-sustaining after planting and establishment.

Discretionary Evaluation Requirements

- 1. Replanting of salvaged or planting of nursery plant materials would maintain or restore wildlife habitat value for cover and movement connectivity between habitat areas crossing the highway.
- 2. Plant species that exhibit difficulty in regenerating naturally or establishing from seeding.
- 3. Designed replanting quantities should not exceed the area's existing density for individual species and area plant spacing which are good indicators of the areas capacity for sustainable plant survival.
- 4. Maintain or enhance the visual resource quality of the highway right of way, professional judgment should be used to achieve an appearance similar to the surrounding area and at the same time self-sustaining with the available natural moisture.
- 5. Required maintenance activities would not be affected such as ditch and culvert cleaning, mowing, shoulder repair and vegetative management and erosion control within a vehicle recovery area.
- 6. Plants are in good condition with high level of assurance for survival and reestablishment. Locations of plants are accessible for equipment.
- 7. Salvage and transplanting of primary or climax vegetation is emphasized over transitional or secondary species.

Unique species, densities and site conditions that result in estimated plant salvage, nursery and planting costs above \$200,000 per mile requires project specific justification and cost increase approval.

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## **APPENDIX M**

#### APPENDIX M: REFERENCES

#### **General References**

- Arizona Department of Transportation (ADOT). 1986. Highway Plans Services Guide for Highway Geometric Design (Section 8-19).
- Arizona Department of Transportation (ADOT). 1990. Highway Plans Services Office Memo, Guidelines for Shoulder Buildup Design.
- 3 Arizona Department of Transportation (ADOT). 1991. Construction Standards (C-Stds).
- Arizona Department of Transportation (ADOT). 1993. Highway Development Design Guidelines. 137pp.
- 5 Arizona Department of Transportation (ADOT). Roadside Design Guide.
- Arizona Department of Transportation (ADOT). Erosion and Pollution Control Manual, 1993 (Draft).
- 7 Arizona State Land Department, Forestry Division. 1993. Tree Seedling Distribution Program. 5pp.
- 8 AASHTO. 1977. Guide for Selecting, Locating, and Designing Traffic Barriers.
- 9 AASHTO. 1988. Roadside Design Guide.
- AASHTO Highway Subcommittee on Design Task Force for Environmental Design. 1991. A Guide for Transportation Landscape and Environmental Design. 163pp.
- 11 Colorado Division of Highways. 1977. Glenwood Canyon, I-70, Architectural and Planning Handbook, Phase Two Preliminary Design.
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#### Maintenance References

- Arizona Department of Transportation (ADOT). 1991. Roadside Vegetation Management Program.
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- Arizona Department of Transportation (ADOT). Traffic Engineering Guide and Procedures #2C-0-0.
- 19 Arizona Department of Transportation (ADOT). Maintenance Manual.
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- 21 U.S. Department of Agriculture, Forest Service. 1990. United States Forest Service Handbook.

#### Wire Fence References

- ADOT, Highways Division, Standard Specifications for Road and Bridge Construction, Edition of 1990, Section 903-Wire Fence.
- 23 ADOT, Highways Division, Construction Standard Drawings, January 1991.

C-12.10, Type 1, Barbed Wire (4 Wire)

C-12.10, Type 2, Barbed Wire (5 Wire)

C-12.10, Barbed Wire (Game Fence)

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ADOT, Highways Division, Construction Manual for Road and Bridge Construction, Edition of 1986 and current revision, Chapter IX, Section 903.00.

#### Photo References

4.11 Luis Colon

4.12 WSA archives

**Figures** 4.13 Luis Colon 1.1 Wheat Scharf Associates (WSA) archives 4.14 WSA archives www.flicker.com accessed 5/07 4.15 WSA archives 1.3 WSA archives 4.16 WSA archives 1.4 Luis Colon 4.17 WSA archives 1.5 Luis Colon 4.18 WSA archives 1.6 Luis Colon 4.19 WSA archives 1.7 Luis Colon 4.20 Luis Colon 4.21 WSA archives 2.1 WSA archives 4.22 Luis Colon 2.2 Luis Colon 4.23 Luis Colon 2.3 WSA archives 4.24 Luis Colon 2.4 www.smu.edu/forum/images/010801 4.25 Luis Colon 2.5 www.flickr.com accessed 5/07 4.26 WSA archives 2.6 WSA Archives 4.27 Luis Colon 2.8 Luis Colon 4.28 Luis Colon 2.9 Luis Colon 4.29 Luis Colon 4.30 Luis Colon 3.1 www.flickr.com accessed 5/07 4.31 WSA archives 3.2 Luis Colon 4.32 www.retainingsolutions.com 6/07 3.3 Luis Colon 4.33 Luis Colon 3.4 Luis Colon 4.34 Luis Colon 3.5 Luis Colon 4.35 WSA archives 3.6 www.wildlifecrossings.info/beta2.htm 5/07 3.7 Luis Colon 5.1 Luis Colon 3.8 Luis Colon 5.2 Luis Colon 3.9 Luis Colon 5.3 Luis Colon 3.10 www.flicker.com accessed 5/07 5.4 WSA archives 3.11 Luis Colon 5.5 Luis Colon 3.12 Luis Colon 5.6 Luis Colon 3.13 Luis Colon Luis Colon 5.7 3.14 Luis Colon Luis Colon 5.8 3.15 www.wildlifecrossings.info/beta2.htm 5/07 5.9 WSA archives 3.16 www.fhwa.dot.gov/environment/ 5.10 Luis Colon wildlifecrossings/photo.htm William Boarman 5.11 Luis Colon 3.17 www.wildlifecrossings.info.beta2.htm 5.12 Luis Colon Steve Homan 3.18 www.fhwa.dot.gov/environment/ Luis Colon 6.1 wildlifecrossings/photo.htm Dwight Forsyth 6/07 6.2 Luis Colon 3.19 Luis Colon 6.3 Luis Colon 6.4 WSA archives Luis Colon 4.1 WSA archives 6.5 4.2 Luis Colon 6.6 WSA archives 4.3 Luis Colon 6.7 WSA archives 4.4 WSA archives 6.8 Luis Colon 4.5 Luis Colon 6.9 WSA archives 4.6 Luis Colon 6.10 Luis Colon 4.7 Luis Colon 6.11 Luis Colon 4.8 WSA archives 6.12 WSA archives 4.9 WSA archives 6.13 Luis Colon 4.10 Luis Colon

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WSA archives

#### **GUIDELINES**

- 7.2 Luis Colon
- 7.3 Luis Colon
- 7.4 WSA archives
- 7.5 WSA archives
- 7.6 Luis Colon
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- 9.6 WSA archives
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- 11.7 Luis Colon
- 11.8 Luis Colon
- 11.9 Luis Colon
- 11.10 Luis Colon

Appendix J

Appendix N

# APPENDIX N APPENDIX N: ADDITIONAL PHOTOS



Constructing highways for optimum scenic views.

Chapter 2

## GUIDELINES Chapter 3





Fence in combination with wildlife passage.



Wildlife overpass.



Constructing crib walls.



Note the use of the cut slope as fill for the roadway.



Rock check dam.



Cut slope with straw mulch blown on for erosion control and insulation against moisture loss.



Preparing the base.

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Drainage



Anticipated rock fall.

APPENDIX O: ADDENDUMS